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External labor markets: Job inclusion structures and processes

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**EXTERNAL LABOR MARKETS: JOB INCLUSION
STRUCTURES AND PROCESSES**

by

Jeffrey Jon Snell, B.S., M.B.A.

**A Dissertation Presented in Partial Fulfillment
of the Requirement for the Degree
Doctor of Business Administration**

**COLLEGE OF ADMINISTRATION AND BUSINESS
LOUISIANA TECH UNIVERSITY**

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We hereby recommend that the dissertation prepared under our supervision
by Jeffrey J. Snell

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ABSTRACT

The objective of this dissertation was to consider the determinants of external labor markets from a multilevel frame of reference. Specifically, the likelihood of a job's inclusion in an external labor market was examined in relation to environmental constraints, power and technological characteristics of the job and demographic features of the jobholder.

The sample frame consisted of a national survey conducted by the Current Population Survey (CPS). The CPS collected data from over 92,000 respondents relating to their having a job in an external labor market. Logistic regression and nonparametric tests were used in the statistical analyses. Statistical analysis revealed relationships between jobs being included in external labor markets and suggested macro, meso and micro variables. The managerial and theoretical implications of the findings of this dissertation were discussed along with contributions made to the extant knowledge in management. Finally, suggestions for further research were considered.

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CHAPTER 1

INTRODUCTION

This study examines job structure determinants for certain external labor market arrangements, (i.e., part-time work, contingent appointments, and leased labor). While the study of both macro-level factors (e.g., Beck, Horan & Tolbert, 1978; Doeringer & Piore, 1971; Edwards, 1979; Gordon & Thal-Larsen, 1969; Mangum, Mayall & Nelson, 1985; Mayall & Nelson, 1982; Miles & Snow, 1984; Schuler & Jackson, 1987; Sonnenfeld & Peiperl, 1988; Tolbert, 1982) and individual-level factors (e.g., Becker, 1964; Blau & Beller, 1988; Keifer & Phillips, 1988; Mincer, 1974; Osterman, 1982; Polachek, 1978, 1987; Smith & Welch, 1988) bring significant impact to our understanding of labor market structures, the examination of work at the job-level enables the investigation of certain questions which otherwise might go unanswered or be incompletely understood. For example, what roles do unions play in human resource practices (cf., Lazear, 1995)? With the acceptance of the value of studying labor markets at the jobs level comes the realization that not all jobs may be handled in the same manner by the organization in which they reside (Long & Bedian, 1998; Osterman, 1982; 1988). Organizations do not always use the same practices for all of their jobs and to limit study to only the organization or its divisions would amount to missing the wide variety of human resource

practices which occur within the organization. For example, dual labor market proponents (e.g., Leigh, 1976, Piore, 1975) suggest that certain jobs within the same organization have low-skills and low-wages, such as janitors, and others have high-skills and high-wages, such as executives, and that human resource practices differ among and between the two groups.

Considerable research (e.g., Abraham, 1988; Abraham & Taylor, 1990, 1996; Appelbaum & Gregory, 1988; Barry & Crant, 1990; Beechey & Perkins, 1987; Bellous, 1989; Blank, 1990a; Callaghan & Hartman, 1992; Cassey, 1989; Christopherson, 1989; Coates, 1988; Collins, 1979; Conway, 1988; Davis-Blake & Uzzi, 1993; Gordon & Thal-Larson, 1969; Harrison & Kelly, 1991; Lazerson, 1989; Lever-Tracy, 1988; Mangum, Mayall & Nelson, 1985; McKay, 1988; Montgomery & Cosgrove, 1993; Nardone, 1986; Nolen, Eddy & Martin, 1978; Osterman, 1988; Pfeffer & Baron, 1988; Pfeffer & Cohen, 1984; Segal & Sullivan, 1997; Stinson, 1986, 1990; Tilly, 1991, 1992; Walker, 1989; Way, 1988; Zeytinaglu, 1992) has suggested several reasons why an organization will engage external labor markets. There may also be reasons individual employees prefer to locate in external labor markets (e.g., Barry & Crant, 1990; Bellous, 1989; Blank, 1989; Canter, 1988; Christensen, 1988; Christensen & Murphree, 1988; Estey, 1976; Howe, 1986; Laird & Williams, 1996; Osterman, 1988; Plewes, 1988; Segal & Sullivan, 1997; Zeytinaglu, 1992). In addition, it has been suggested (e.g., Tilly, 1991, 1992) that, due to economic hardship, some individuals may locate in external labor markets involuntarily. Although little research has been done to explain why such arrangements may be used, Davis-Blake and Uzzi (1993: 198), in particular, have held that “because internalized and externalized work arrangements complement one another, they are likely to have many of the same determinants.” Expounders of the dual labor market theory (e.g., Doeringer and Piore, 1971)

have suggested that individual firms will use complementary, but unique, staffing arrangements for the core (i.e., internal labor markets) and peripheral (i.e., external labor markets) areas of the firm. Thus, many of the antecedents which lead the firm to utilize internal labor markets may also lead to the use of external labor markets. This paper will consider various job-level determinants for the usage of external labor markets.

Long and Bedian (1998) have suggested that two factors which may effect the organization's ability to set up its desired work structures are the ability of the job incumbent to influence organizational practices through the job's content (e.g., degree of autonomy) and the collective influence that associations such as unions and professional societies can have upon the organization. Borrowing from research considering technology and organizational practices (e.g., Hickson, Pugh & Pheysey, 1969; Perrow, 1967; Thompson, 1967) and research on power and the organization (e.g., Cyert & March, 1963; Mintzberg, 1983; Pfeffer, 1981, 1989) they suggest that job content and power coalitions within the organization can effect the organization as it attempts to build its desired work structures. However, not all employees located in external labor markets may necessarily desire to be in an external labor market. It is likely that an employee's willingness to be in an external labor market may affect the actions of power coalitions. For example, if a large proportion of employees desire to be in an external labor market then the likelihood of power coalitions comprised of those employees advocating for the usage of internal labor markets may be diminished. In like fashion, employees who are desirous of increased occupational flexibility in order to free time for matters such as family responsibilities and who are already in external labor markets may desire to continue laboring in external labor markets. To more accurately measure the effects that power coalitions and labor supply can have upon human

resource practices the desire of the employee should also be accounted for. This paper will continue with such work by considering if and how job content and labor organizations can affect the usage of external labor markets. This study will also consider the effects that an individual's preference and willingness to situate in an external labor market can have upon organizational human resource practices.

This introduction serves to outline the purpose of the dissertation, the nature of the problem it addresses, and introduces four key terms (i.e., external labor markets, involuntary work arrangements, job autonomy, and job interdependence). It is organized into six sections: (1) definition of key terms, (2) statement of the research problem, (3) purpose for studying external labor markets, (4) significance of the study, (5) outline of subsequent chapters, and (6) chapter summary.

Definition of Key Terms

Chapters 2 and 3 will detail the theoretical dynamics of this study. Before continuing, however, four key terms are defined: (a) external labor markets, (b) involuntary work arrangements, (c) job autonomy, and (d) job interdependence.

1.1.1 External labor markets

When speaking of external labor markets this paper is considering the employment situations of contingent employees, part-time employees, leased laborers, and other employees who are not in internal labor markets but who are “permanent,” full-time, employees of the organization under consideration (i.e., employees with a peripheral job). These arrangements may not necessarily be exclusive of one another. For example, an on-call substitute teacher who when

called is engaged for less than eight hours per day and who has a one-year arrangement with the school is considered to be a contingent, part-time, and leased laborer. However, if an employee's job meets but one criteria of being contingent, part-time, or leased then that job is also thought of as being in an external labor market. For example, a waiter who has an ongoing job and is directly employed by the restaurant, but who only works thirty hours per week, is still considered to be in an external labor market.

The Bureau of Labor Statistics (1989) has defined contingent work as "any job in which an individual does not have an explicit or implicit contract for long-term employment." That is, a contingent employee is considered to be anyone in a job currently thought of as being of short-term duration. For example, the Current Population Survey (1995) considers any employee holding a job whose duration is one year or less as a contingent employee. There are several examples of contingent employees - student interns, visiting professors, and employees who have been notified of upcoming plant closings. It is estimated that 6 million employees are contingent employees; however, some contingent employees may also be part-time employees or leased laborers (Polivka, 1996).

Part-time employees are those employees who work less than 35 hours per week (Bureau of Labor Statistics, 1947). However, those employees who would normally work more than 35 hours per week, but due to economic reasons were working less than 35 hours per week at the time in which surveying occurred are still considered to be full-time employees. Numerous examples of part-time employment exist. Part-time employment is particularly prevalent in those industries in which customer demand may not require employees to perform a daily eight-hour shift, such as retail trade, restaurant services, and domestic services. Approximately 17.3 million

employees are part-time employees, though not necessarily exclusive of also being a contingent or leased laborer (Nardone, 1986).

The Current Population Survey (1995) considers leased laborers as including independent contractors, temporary help agency employees, employees of contract companies, and on-call employees. Leased laborers may or may not have a continuing relationship with their organization. For example, employees who are contracted for a specific project and who exit the firm upon the project's completion; as opposed to employees who are contracted on an ongoing basis, such as contract maintenance employees. Leased laborers may also, of course, work a standard shift or they may be employed part-time. Cohany (1996) has suggested that there are some 12 million employees in contract labor arrangements, albeit some of those jobs may also be contingent or part-time in nature.

Employees who are in peripheral positions in the organization include those employees who are currently employed by the organization and have full-time, on-going positions, but who are not in positions having career ladders (Doeringer & Piore, 1971). By being excluded from the organization's formal career advancement structure such jobs may take on other characteristics (e.g., less pay, fewer benefits, less job security) that are different than jobs which are in internal labor markets (Althauser & Kalleberg, 1981).

Involuntary versus Voluntary Work Arrangements

According to Tilly (1992: 43), employees in involuntary work arrangements include those individuals who acquired their jobs due to "slack work, plant downtime, starting or ending their work during the week they are surveyed, or inability to find a job." Individuals in involuntary

work arrangements are comprised of those employees who have a discrepancy between their preference and their actual occupational conditions including working full-time, being directly employed by their organization, or having continuous employment. For example, if an employee wants to work full-time, but can not find a full-time position then that individual would be considered to be in an involuntary work arrangement. On the other hand, if an individual prefers to work as a contract laborer then that individual, even though being in an external labor market, would not be considered to be in an involuntary work arrangement. Applebaum (1992) has estimated that involuntary work arrangements made up 40% of all new occupations in external labor markets that were created between 1980 and 1992. As previously mentioned, in considering the antecedents of the selection of labor markets cognitive effects of employees regarding variances in labor markets and the perceived individual benefits and drawbacks need to be examined to more accurately determine the conditions leading to the choice of an occupation in an external labor market as opposed to an internal labor market. For example, an individual possessing an advanced degree and having minimal family responsibilities may have different cognition as regarding a job in an external labor market as opposed to an individual who also has an advanced degree but who desires to have more time available for family affairs. It is also necessary to consider the specific reasons for desiring an occupation in an external labor market as opposed to one in an internal labor market when considering the relationships involved in the selection of labor market type. For example, an individual who desires to work in an external labor market in order to “be one’s own boss” may have significantly different characteristics than an individual who desires to be in an external labor market in order to free up time for other activities. Individuals may also be in an involuntary work arrangement due to economic

conditions. For example, an individual may desire to be an external labor market, but can not do so due to lacking access to an affordable health insurance plan or pension plan unless the individual works in a occupation in an internal labor market. Related factors regarding such desires and economic flexibility needs to be considered to more accurately determine the conditions and results of labor market choices.

Job Autonomy

Job autonomy is the degree of control an individual employee has over his or her job. Because different jobs involve doing different tasks and handling different resources, variations in job autonomy can occur based upon the variability of such tasks and resources and the degree to which the employee has unique knowledge of those tasks and resources (Pfeffer, 1967).

Job Interdependence

Thompson (1967) has suggested that jobs have unique degrees of interdependence based upon the tasks that are performed and the relationship of those tasks to the tasks performed in other jobs. According to Thompson, there are three types of task interdependence. Jobs which have pooled interdependence are performed independently of other jobs. Jobs having pooled interdependence do not rely upon the results of other jobs, nor do the results of jobs with pooled interdependence create outputs upon which other jobs are dependent. For, example movie ticket salespeople depend more upon customers going to the theater than they do upon the work of other employees. Jobs which utilize sequential interdependence, a greater degree of interdependence, depend upon the output of other jobs for their input. Jobs with sequential interdependence use the preceding processing of other jobs and the inputs obtained therefrom for

the basic materials needed for their further processing, but there are no other jobs within the organization which rely upon jobs with sequential interdependence for input. For example, in order for billing clerks to send out monthly statements the original sale must first be recorded and any collection must be accounted for by collections clerks. Finally, jobs having reciprocal interdependence, the greatest degree of interdependence, both rely upon the output of other jobs and create the input for those related jobs. Jobs with reciprocal interdependence obtain the materials they need from the work of previous jobs and then send those same materials to other jobs after the work of jobs with reciprocal interdependence has been completed. For example, chemical plant operation personnel who work in jobs at the beginning of the processing flow often use byproducts in their work which arose from further processing down the line.

Statement of the Research Problem

The goal of this dissertation research is to empirically explore the determinants of job structures as they apply to external labor markets at the job-level. It is the contention of this study that, while recent research has helped to explain the processes and determinants of job structures, the need for further investigation remains. Also, while macro- and micro-level studies have been done and have assisted in the understanding of job structure formation processes from their respective points of view, study at the job-level remains open.

Purpose for Studying External Labor Markets

This paper has the twofold purpose of linking various recent papers which have examined labor market structures (e.g., Davis-Blake & Uzzi, 1993; Golden & Applebaum, 1992; Long & Bedian, 1998) and of extending the knowledge of such structures as it relates to contract labor,

part-time employment, and contingent labor. While recent work has contributed to the understanding of labor market structures, work remains to be done. For example, while Davis-Blake and Uzzi (1993) have considered why organizations may desire external labor markets they did not speak of the organization's ability to carry out those wishes. Long and Bedian (1998) considered the organization's ability to determine its job arrangements but did so only for internal labor markets and only peripherally addressed the possibility that employees may not desire to be in an internal labor market. Likewise, while Golden and Appelbaum (1992) spoke of both labor supply and labor demand as antecedents of external labor markets, they performed separate analyses for labor supply and demand and did not directly consider the effects that variation in one can have upon the other. Moreover, by doing their study only at the organizational level they did not account for the possibility of heterogeneity within the organization.

In examining job structures it can be noted that there are two paths which lead to job structure choices and both paths have two steps each. Previous research has indicated major factors influencing an employer's desire to use external labor markets may be related to: (1) the degree of variability in the demand for labor (Davis-Blake & Uzzi, 1993; Mangum, Mayall & Nelson, 1985; Nardone, 1986; Tilly, 1991); (2) labor supply shortages (Bellous, 1989; Gordon & Thal-Larsen, 1969; Lazerson, 1989; Osterman, 1988); (3) benefit package cost (Blank, 1990a; Callaghan & Hartman, 1992; Stinson, 1986, 1990; Tilly, 1992); (4) organizational diversity (Abraham, 1988; Barry & Crant, 1990; Harrison & Kelly, 1991; Osterman, 1988; Pfeffer & Baron, 1988); and, (5) organizational demographic characteristics (Abraham & Taylor, 1990; Callaghan & Hartman, 1992; Davis-Blake & Uzzi, 1993; McKay, 1988). Major factors which

may influence an employee's desire to be in a nonstandard work arrangement may be related to: (1) gender (e.g., Blank, 1989; Segal & Sullivan, 1997; Zeytinaglu, 1992); (2) marital status (Christensen & Murphy, 1988; Segal & Sullivan, 1997); (3) age (Bureau of Labor Statistics, 1992); (4) the desire for self-management (Bellous, 1989); and, (5) the desire for short-term or part-time working conditions (Bellous, 1989; Laird & Williams, 1996; Osterman, 1988). Also, macro level socio-economic factors include: (1) business cycles (Osterman, 1988; Sengenberger, 1981); (2) shifts from a manufacturing society to a service society (Coates, 1988; McKay, 1988; Nardone, 1986; Tilly, 1991); and, (3) increased foreign competition (McKay, 1988; Way, 1988) may influence the desirability of external labor markets for employers and employees alike. Even though some employers may wish on occasion to utilize external labor markets or some employees may prefer to be in a external labor market such desires may not be met if both sides are not in agreement. In such cases union power, labor supply, and job content factors may determine which side wins out (e.g., Abraham, 1988; Davis-Blake & Uzzi, 1993; Estey, 1976; Freeman & Medoff, 1984; Golden & Applebaum, 1992; Harrison & Kelly, 1991; Kaufman, 1988; 1991; Long & Bedian, 1998; Tilly, 1991). To date no study has examined the interrelationships of employer and employee desires and the processes through which those desires may or may not be operationalized.

Another reason for studying external labor markets and their processes is to determine if such processes act in a fashion similar to those found in internal labor markets. Davis-Blake and Uzzi (1993) and Long and Bedian (1998) have suggested that they may. Also, if they do not operate in the ways suggested by examining internal labor markets is it due to differences between

internal labor markets and external labor markets? Or, do we not clearly understand how internal labor market processes function and can findings from the analysis of external labor markets be used to more clearly define our understanding of internal labor markets?

Research has shown (e.g., Billings, Klimoski & Breaugh, 1977; Child & Mansfield, 1972; Comstock & Scott, 1977; Grimes & Klein, 1973; Hachen, 1988; Osterman, 1988) that there is considerable variation in the processing of technology both between and within firms. Internal labor market studies (e.g., Baron & Bielby, 1980; Baron, Davis-Blake & Bielby, 1986; Edwards, 1979; Hachen, 1988; Osterman, 1984) have also shown that substantial differences exist in a firm's human resource practices. Similarly, research has found that there may be substantial variation within organizations regarding wage and promotion treatment of employees in external labor markets (e.g., Blank, 1987; Kahne, 1985; Nolle, Eddy & Martin, 1978; Tilly, 1992; Wallace, 1989). Thus, more job-level study of work arrangements and the interaction between employers and employees is needed.

In conclusion, it is contended that with the paucity of knowledge of external labor markets and the fashion in which such positions are established, a better understanding is needed. Previous research, of value though it may be, needs to be both assimilated and extended. Specifically, a clearer understanding of the means through which differences between employer and employee preferences for various work structures are reconciled and brought to fruition needs to be developed. Given the diversity that exists in organizational human resource practices, the job-level perspective needs to be utilized in order to better comprehend previous macro- and micro-level work. For example, are there certain jobs within industries which are more likely to be in external labor markets?

Significance of the Study

This paper is designed to advance our understanding of external labor markets. To date, the vast majority of studies dealing with external labor markets have considered either the employer's perspective (e.g., Abraham & Taylor, 1990; Davis-Blake & Uzzi, 1993; Harrison & Kelly, 1991; Mangum, Mayall & Nelson, 1985) or the employee's perspective (e.g., Bellous, 1989; Christensen & Murphree, 1988; Segal & Sullivan, 1997), but such work has not examined the effects of the individual's entrance into a particular labor market form and the opportunity that the employee has to do so from the interaction of both demand and supply sides. Golden and Appelbaum (1992), as an exception, did discuss the interplay of employers and employees, but did their analysis of supply and demand effects upon external labor markets separately. Furthermore, most studies have considered external labor markets from macro-level perspectives of the organization or industry and therefore did not consider the variety of work arrangements which often occur within a single organization. This study, by conducting analysis from the job-level perspective, expects to shed light on our understanding of these issues and of the formation of external labor markets.

This dissertation has the twin goals of expanding upon previous work in labor markets and integrating prior research into a more comprehensive understanding of external labor markets. By limiting research to the macro-level an overaggregation of data occurs when processes differ within the subject under study. Also, by limiting study to either the perspective of the employer or the employee, rich interplay involving the job's technological arrangements and power

coalitions are missed. Thus, promotional, occupational mobility, and compensation plans are not clearly comprehended. It is hoped that this study will provide a more thorough examination.

On a more practical level, this paper hopes to aid in understanding external labor markets both for policy makers and individual organizations and employees. First, several theorists have deplored external labor markets for their supposed development of a second class citizenship. For example, Zalusky (1986) has stated that external labor markets create “a new subclass of employees,” and Levitan and Conway (1988) have described employees in such arrangements as “living on half rations.” Golden and Appelbaum (1992) have called for public policy that would limit the creation of external labor markets to a level that accommodates the desire of the employee for such structures. Without a more complete understanding of specific jobs, their tasks and the processes involved in external labor markets the creation of such public policy may very well do more harm than good. With a better understanding of external labor markets and the specific jobs that are affected by them, the differing conditions of jobs in external (vs. internal) labor markets may be determined more accurately.

Secondly, some theorists (e.g., Sonnenfeld & Peiperl, 1988; Tichy, Fombrun & Devanna, 1984) have held that when setting organizational strategy, business policy makers need to consider the ramifications of their human resource practices. This notion seems to be of obvious value. However, if the usage of external labor markets are to continue without an understanding of the technological components of the individual job and the interplay which occurs between the desires of employers and employees, the possibility exists that such strategy, being based upon an incomplete understanding of job structure formation and the interaction of employers and employees, may suffer (Child, 1984). Thus, a more comprehensive knowledge of external labor

markets, their processes and technological elements, the coalitions which are involved in the establishment of such arrangements, and the effects that labor supply and demand can have upon their formation is needed.

Outline of Subsequent Chapters

Chapter 2 reviews relevant findings regarding external labor markets as well as prior work on technology, power coalitions, and internal labor markets. Special emphasis is placed upon work involving the job-level perspective and the limited work on the intertwining of employer and employee work structure desires and the forces which are used to attain such desires. Work involving external labor markets that does not utilize the job-level frame, while not covered to the same extent, is still detailed to the degree needed for the dissertation.

Chapter 3 outlines the theoretical justifications for the research hypotheses. Research objectives and research questions are also stated.

Chapter 4 develops the research design and discusses the methodology and statistical techniques used in this study.

Chapter 5 presents and discusses the research results.

Chapter 6 offers research conclusions which can be developed from the research results and suggests directions for future study. Study limitations are also acknowledged.

Chapter Summary

This chapter outlined the rationale for this dissertation, the nature of the subject it addresses, and provided a purpose for studying external labor markets from a job-level viewpoint. Additionally, the significance of the study was addressed and an outline of subsequent chapters as provided.

CHAPTER 2

EXTERNAL AND INTERNAL LABOR MARKET RESEARCH

This chapter provides an overview of prior external labor market research and briefly highlights research concerning internal labor markets. Conceptual issues and problems characteristic of prior research are considered. Based on this review, it is suggested that examination of external labor markets solely from either a macro- or micro-level viewpoint may fail to gain a complete understanding of how and why these employment arrangements are developed and structured.

Comparatively little job-level research has been directed at understanding how and why external labor markets form. This is especially true regarding interactions among job-level characteristics. This dissertation is, therefore, somewhat exploratory in nature. However, many of the findings provided by previous external labor market research as well as past studies of technology and organizational structures can be of benefit in guiding the efforts of the current examination. It has been suggested that external labor markets may have some commonality with internal labor markets (e.g., Davis-Blake & Uzzi, 1993). Previous work on internal labor markets and the dual markets theory of labor will also be considered.

This chapter is divided into two main sections: (a) previous research into internal labor markets, and (b) external labor market research. Part (b) is further subdivided into four

subsections: (1) contingent labor research, (2) part-time employee labor research, (3) contract labor research, and (4) peripheral labor research. This dissertation is primarily directed at issues relating to the content of external labor markets (e.g., a job's technological components) and social forces that define this content.

Internal Labor Markets Research

Althauser and Kalleberg have defined internal labor markets (ILMs) as being composed of job ladders having limited entry portals at the bottom of the ladder and where movement up the ladder is related to the development of skills and experience. ILMs tend to increase workforce stability and allow the employing organization a greater degree of control over employment relationships (Sorenson, 1983). ILMs select and develop employees who are capable of being socialized into the organization and will follow company policies and procedures (Cohen & Pfeffer, 1986; Collins, 1979), align jobs into a hierarchical arrangement (Edwards, 1979), monitor employee performance and behavior (Williamson, 1981), and provide opportunities for employee growth and advancement (Baron, Davis-Blake, & Bielby, 1986; DiPrete, 1987; Jacobs, 1981; Wholey, 1985).

Osterman (1987), in considering the determinants of internal labor markets, has suggested that ILMs will form due to the organization's balancing of a three interrelated goals: cost effectiveness, predictability, and flexibility. It has previously been suggested (Williamson, Wachter & Harrison, 1975) that large firms face difficult and costly employee monitoring costs, and the firm's ability to specify in advance the exact nature of the tasks desired of the employee is problematic. Internal labor markets reduce both the need for monitoring and employee

opportunism (cf. Long & Bedian, 1998; Williamson, 1981). Monitoring costs can be especially onerous if interdependency of tasks exist among employees and it is difficult to assign responsibility for performance (e.g., Alchian & Demsetz, 1972; Eisenhardt, 1985; Long & Bedian, 1998; Ouchi, 1979; Wachter & Wright, 1990; Williamson, 1975). The investment required by ILMs for the development of career ladders and corresponding compensatory plans can be stifling. Thus, it would be expected if the labor supply is plentiful for a particular occupation and employees can therefore be obtained through spot markets at a lower overall cost than by utilizing ILMs that internal labor markets would not be engaged by the organization (Osterman, 1987). On the other hand, if supply is limited then procuring employees from ILMs may be less expensive for the firm.

In addition to minimizing costs, organizations also seek to maximize predictability. Thompson (1967) has suggested that firms will be particularly desirous of minimizing environmental uncertainty for the organization's principle means of operation. To attain the goal of maximum predictability firms can develop internal ladders and firm-specific training programs. Doeringer and Piore (1971), among others, have held that firm-specific training generates a bond between the organization and its employees which, in turn, minimizes the effects of environmental variability. Furthermore, organizations that require the development of firm-specific training are more likely to utilize ILMs (Pfeffer & Cohen, 1984).

With the creation of organizational stability, the firm may also face the inability to facilitate environmental change (e.g., Belous, 1989; Bills, 1987; Osterman, 1982, 1988). Organizational inertia may develop and the firm's ability to change may become problematic, especially in core areas of the firm (e.g., Hannan & Freeman, 1989; Singh & Lumsden, 1990). A third

organizational goal often sought in employment practices is flexibility (e.g., Kochan, McKersie, & Katz, 1986; Osterman, 1987; Piore & Sabel, 1985). The organization seeks flexibility in both the quantity of employees hired and the tasks carried out by those employees. However, unions and other collective employee groups have consistently sought to minimize the level of risk borne by employees in employment structures and thus unions will favor the use of internal labor markets (e.g., Abraham & Medoff, 1984; Fay & Medoff, 1985). Flexibility may be particularly desired by those firms which have experienced employment variability due to foreign and domestic competition (Osterman, 1987). Pfeffer and Cohen (1984) have also found that those organizations which have experienced higher levels of technological change are more likely to have ILMs.

Edwards (1979) and other radical economists (e.g., Braverman, 1974; Gordon, Edwards, & Reich, 1982) have suggested rather than engaging ILMs to minimize costs (Williamson, Wachter & Harris, 1975) organizations will utilize ILMs to gain control over employees. Since “only large and monopolistic firms have the stability and resources to institute bureaucratic control” (Edwards, 1975: 5) those firms residing in the core areas of the economy are more likely to use ILMs (cf., Averitt, 1968; Bluestone, Murphy, & Stevenson, 1973; Pfeffer & Cohen, 1984). An organization’s tendency to have more formal structures such as bureaucracies and unions may also be related to the organization’s utilization of internal labor markets. For example, several researchers have associated unionization with core sector employment practices and ILMs (Bluestone, Murphy, & Stevenson, 1973; Beck, Horan, & Tolbert, 1978; Gordon, Edwards, & Reich, 1982; Pfeffer & Cohen, 1984). It has also been found that firms with other bureaucratic

arrangements such as branch establishments or personnel departments are more likely to have ILMs (Pfeffer & Cohen, 1984).

In considering the determinants of internal labor markets it should be noted that ILMs are often more varied both between and within firms than much of previous literature has suggested (Althauser & Kalleberg, 1981; Barron, Davis-Blake, & Bielby, 1986; Bills, 1987; Doeringer, 1967; Osterman, 1982). In that light, Long and Bedian (1998) have suggested that a job-level approach, in addition to more commonly used macro-level approaches, needs to be utilized to better understand the heterogenous nature of ILMs. They suggest the tendency of an organization engaging ILMs is dependent upon four factors: interdependence between jobs, the degree of discretion entailed by the job, union representation, and firm-specific knowledge. Job interdependence tends to increase employee performance monitoring costs (Alchain & Demsetz, 1972). Williamson and others (1975) have indicated that firms will use ILMs to reduce the costs required by employee monitoring. Similarly, the ability of an incumbent to exercise discretion in a job decreases management's ability to control organizational processes by reducing information availability (Williamson, 1981). Thus, management becomes more dependent upon those employees who have increased levels of job discretion. To ensure such employees will not engage in opportunistic behavior, employers may either invest in the development of ILMs or they may employ workers having high levels of job involvement (e.g., Eisenhardt, 1985; Mintzberg, 1983; Ouchi & Maguire, 1975).

Long and Bedian (1998) have also noted the importance that employee collective associations and firm-specific skills can have on increasing employee "market power." Both unions and firm-specific skills can increase the degree of control that employees are capable of

exercising in organizational employment practices. Unionization can enhance employee market power by supporting collective action and by limiting the supply of employees through restricted access to union credentialling (e.g., Boswell, 1988; Mintzberg, 1983). Employees having firm-specific skills may have increased market power due to the limited supply of employees having such knowledge (Diprete, 1987; Doeringer & Piore, 1971; Kanter, 1984; Long & Bedian, 1998; Williamson, 1975; Williamson & Ouchi, 1981). Of course, employees possessing firm-specific skills may develop a bilateral dependency with their organization in which the employee is as dependent upon the employer requiring the employee's skills as the employer is upon the employee's availability, especially if the employee has few other "bankable" skills that are not solely related to the organization (cf., Long & Bedian, 1998). Long and Bedian argue that both job interdependence and employee discretion will increase the likelihood of the firm utilizing ILMs and that the inclusion of such jobs in a union may additionally enhance the likelihood of the job residing in an ILM. Likewise, jobs in which firm-specific training occurs may also be more likely to be in an internal labor market than jobs that do not receive firm-specific training.

Dual Labor Market Theory

The dual labor market theory (Doeringer & Piore, 1971; Piore, 1969, 1970) holds that the overall labor market can be divided into two labor markets: the primary and secondary market. The primary market is comprised of a number of internal labor markets whose jobs have relatively high wages, good benefits, career advancement opportunities, good working conditions, employment stability, and formal due process procedures and equity in work rule administration. The secondary market is comprised of a number of external labor markets whose jobs have

relatively low wages, poor benefits, little career advancement opportunities, poor working conditions, little employment stability, and arbitrary work rule administration. Employees in the secondary market also tend to have greater turnover, higher absenteeism and lateness, more insubordination, and are more frequently reported for committing workplace petty thefts (Doeringer & Piore, 1971). The dual labor market theory posits that disadvantaged employees (e.g., women and minorities) are more likely than advantaged employees (e.g., white males) to be limited to jobs in the secondary market due to residential location, inadequate job skills, poor work histories, and discrimination. The dual labor market theory also holds that while employees may be constrained to work in the secondary market, employers have more flexibility in their utilization of the primary or secondary market via arrangements such as subcontracting, temporary employment, part-time employment, and structuring jobs into peripheral positions (Doeringer & Piore, 1971). Higher turnover rates found in the secondary market may be due to the nature of the work itself or employee action. For example, certain jobs which are commonly filled by women or minorities in hospitals and hotels tend to be stable, but turnover in these low-paying, menial jobs tends to be relatively high. On the other hand, jobs in nonunionized construction industries and seasonal manufacturing industries are contingent in nature. The higher turnover rates found in the secondary market are further tied to both supply and demand side factors in that employees in the secondary market tend to have a relatively weak attachment to the labor market (Mincer, 1966), but such lessened attachments may also enable “secondary” employees to temporarily consent to having unattractive working conditions and little opportunity for career advancement (Doeringer & Piore, 1971). Thus, they tend to have jobs characteristic of those jobs open to women and minorities.

The dual labor market theory holds that the primary market is comprised of a number of internal markets in which the entry mechanism into those internal labor markets consists of a queue in which applicants are ranked based upon their expected productivity. The secondary market, on the other hand, is composed of three kinds of employment situations (Doeringer & Piore, 1971). First, some jobs in the secondary market are completely unstructured and do not have any ties to internal labor markets. These jobs are the exact opposite of those jobs found in internal labor markets. Examples of such jobs include casual laboring positions in the construction industry, domestic jobs, and table bussing in restaurants. Second, other jobs in the secondary labor market comprise a “secondary” internal labor market division. These jobs have limited internal structures with numerous entry portals, short mobility job groups, low pay, few benefits, and laborious working conditions. Examples of such jobs include blue-collar jobs in foundries, stitching jobs in apparel plants, and subservient positions in hospitals. Third, some secondary jobs are located in organizations in which the remainder of the positions are in an internal market. In manufacturing organizations, for example, there may be one group of employees who have much less stringent hiring standards than the other firm’s other groups. For example, machine tool companies may have foundry and laboring groups. Secondary jobs in these firms are very similar to the other two types of secondary market groups. For example, work may be contingent or contracted out. In some organizations, though, in order to obtain internal consistency, secondary positions in the organization’s internal labor market may have such formal mechanisms as seniority rights or established due process procedures. In each secondary labor market group less attention tends to be given to differentiating among potential employees than in the primary labor market (Doeringer & Piore, 1971, cf. Doeringer, 1968).

For some women and minority employees the mechanism used for movement into the primary market is comparable to that of other employees entering into the primary market (e.g., Thurow, 1969). Doeringer and Piore (1971) further note that when the demand for labor is high or the supply is low, employers move down the queue and may be more willing to allow women and minorities to enter into the primary market (cf., Doeringer, 1968). However, even in times of tight labor supply conditions the most seriously disadvantaged employees may still not be able to enter into the primary market. In such times organizations may turn to devices such as subcontracting, contingent employment, part-time employees, or technological adjustments that enable the organization to hire more peripheral employees rather than the further expansion of disadvantaged employees into the primary market (Doeringer & Piore, 1971).

The dual labor market theory by connecting “primary employment with internal labor markets, and secondary labor markets with a mixture of internal markets and jobs not belonging to internal markets suggests that the distinction between primary and secondary markets need not imply the strict separation of the two ... (Doeringer & Piore, 1971: 169). For example, some firms may overcome the lack of flexibility by utilizing secondary labor markets. Employing secondary markets may also produce cost savings for the firm (e.g. Belous, 1989; Pfeffer, 1994). For example, by utilizing secondary markets the firm may be able to hire employees without incurring increased health insurance and pension costs (Casey, 1989; Christopherson, 1989). Further, some contingent employees (e.g., independent contractors) are frequently responsible for controlling their own work, thus reducing firm monitoring costs (Belous, 1989). Employees in secondary markets are frequently hired without an expectation of permanent employment, therefore, the firm does not suffer decreased morale when those employees are let go (Belous,

1989; Osterman, 1988). Secondary markets may also offer a source of supply for infrequently needed specialized skills (Belous, 1989; Gordon & Thal-Larsen, 1969; Lazerson, 1988). However, employees who are external of the firm's core may not identify as closely with organizational goals as those employees who are inside the core. Thus, the firm is faced with choosing between using externalized employees who may provide cost savings and more flexibility, but with less organizational control and stability or internalized employees who offer more control and stability, but at a higher cost and with less flexibility. Many firms will choose to utilize both primary and secondary markets. By so doing the firm can gain the advantages offered by having an internalized employee core which performs those tasks that are central to the organization and, simultaneously, the organization obtains an externalized pool of employees who perform tasks in the organization's periphery and give the organization added flexibility.

External Labor Markets Research

Most research relating to external labor markets can be categorized into one of three labor arrangements: contingent employment, part-time employment, and contract labor. Only rarely has more than one arrangement been the topic of any study, some papers have only considered select elements of an arrangement (e.g., Davis-Blake & Uzzi, 1993). Almost all of the work done examining external labor markets has proceeded from either the macro-level (e.g., Golden & Appelbaum, 1992; Mangum, Mayall, & Nelson, 1985; Pfeffer, 1994; Tilly, 1991, 1992; Williams, 1995) or from the micro-level (e.g., Long & Jones, 1981; Stratton, 1996). Very little work has considered the role that job characteristics can have upon external labor market structures, although portions of Davis-Blake and Uzzi (1993) are an exception. Furthermore, to date only

minimal effort has been spent examining the interaction of demand and supply issues and their combined effect upon human resource strategies. In addition, while some studies have considered the effects of unions upon employee externalization (e.g., Montgomery & Cosgrove, 1993; Polivka, 1996a), such work has generally been done with the assumptions that unions are declining and that there is a homogeneous affect by unions upon the externalization of jobs.

Three means of establishing external labor market arrangements are by procuring contingent employees, part-time employees, or contract laborers. Studies have examined variables encountered in each of these conventions. The next three sections will consider such work in turn.

Contingent Employment

Contingent employees are those employees who are considered to have a tenuous relationship with their organization, that is, such employees lack a long-term attachment to the firm (Belous, 1989; Gomez-Mejia, Balkin, & Cardy, 1995). Many authors have suggested that the use of contingent employees is a factor of product demand shifts or increased foreign competition (e.g., Abraham, 1988; Carey & Hazelbaker, 1986; Christopherson, 1988).

Employers use contingents to handle short-term demand increases, to fill in for ill employees or employees on leave, to provide skills that core employees do not have, and to perform routine and boring tasks (Kirkpatrick, 1988; Polivka & Nardone, 1989). Contingents enable the firm to respond quickly to changing market conditions and to buffer against seasonal and cyclical demand fluctuations (Polivka, 1996a). The two industries -construction and agriculture - having the highest relative employment variation rate also had two of the highest rates of contingency usage.

Furthermore, the three industries with the lowest relative variation in employment - manufacturing, wholesale trade, and finance, insurance, and real estate - had below average contingency rates. Still, the service industry group had a high rate of contingency, but only a moderate rate of employment variation. Generally, industries having higher rates of employment variation also had higher rates of contingency (Polivka, 1996a). Using contingent employees can also help insulate the firm's core workforce from layoffs (Osterman, 1988). Thus, allowing firms to protect their human capital investments and hire more talented, permanent employees. Also, firms may be able to obtain better work and wage concessions from their permanent employees by providing them more job security. Contingent employees may also provide valuable managerial flexibility to the firm that is attempting to meet legal restrictions (Ansberry, 1993; Caudron, 1994a; Gerber, 1993; Kilborn, 1991; Pfeffer & Baron, 1988; Ramierez, 1992).

In order to counter the instability of contingent employment, employees may form unions to collectively bargain for job stability. Indeed, there may be a relationship between union participation and the rate of contingent employee usage (Polivka, 1996a). Industry data indicates that the two industries having the highest unionization rates - public administration and transportation - also had below average contingency rates. But, the finance, insurance, and real estate industry group had both the lowest rate of contingency and one of the lowest rates of unionization. The two industries with the highest rates of contingency, construction and services, had about average rates of unionization. At the societal level, the use of contingent employees may therefore be tied more closely to the characteristics of the specific industry than to unionization rates (Polivka, 1996a). Contingent employees are much less likely to be union members than are permanent employees. Contingent employees are also less likely to be

employed at a job covered by a union contract, regardless of whether the specific employee was a union member. Still, there are several industries in which the percentage of contingent employees who are members of a union or who are covered by a union contract is higher than the percentage of noncontingent employees who are covered by a union (e.g., craft unions). Other industries' contingent employees are much less likely to be associated with a union than the industry's noncontingent employees (e.g., most service and manufacturing industries). Thus, (Polivka, 1996a) contends that the relationship between unionization and contingency rates are probably industry specific. Other employees who have higher degrees of job autonomy or are more centrally located in their firms may be able to ensure job stability through those market power mechanisms.

Employees in traditionally disadvantaged groups (e.g., females, minorities) may not have a job with market power and therefore may be more likely to be in a contingent job arrangement (Polivka, 1996). There may be several reasons employees work in a contingent arrangement. Many simply cannot find full-time work (Feder, 1995; Kilborn, 1993; Polivka & Nardone, 1989; Shellenbarger, 1995b). Other employees have had their previous positions eliminated and are rehired without benefits and at a lower wage rate (Ansberry, 1993). However, other employees choose to become contingents. Contingent employment may appeal to various employees for a number of reasons. For example, some employees like the variety and freedom of movement that contingent work offers (Caudron, 1994a). Other employees may desire to have more time for family demands and may prefer the shorter employment duration found in contingent work (Christensen, 1988; Kilborn, 1993; Shellenbarger, 1995a). Teenagers and previously retired employees may see contingent employment as a way to enter or reenter the labor market

(Caudron, 1994a; Kirkpatrick, 1988; Phillion & Brugger, 1994; Stinson, 1986). Polivka and Nardone (1989) have also noted that younger employees may view contingent employment as a way to gain experience in hopes of determining where their career interests lie. Still other employees who are seeking long-term employment may accept contingent employment in hopes of transferring to more permanent employment once they have proven themselves (Ansberry, 1993; Kilborn, 1995; Rose, 1995). Furthermore, employees who are contingently employed may be able to rearrange the form of their compensation they receive. For example, employees who are covered under their spouses' health insurance or pension plans may prefer the cash-only payments frequented in contingent employment. Some employees with certain marketable skills may also be able to earn more by working for a variety of firms on a contingent basis (Kirkpatrick, 1988; Lohr, 1992).

Part-Time Employees

Part-time employees are defined by the Bureau of Labor Statistics as employees who work less than 35 hours per week on a recurring basis. Since 1969 part-time employment has risen primarily because employers view the arrangement as a way to cut costs and not because more employees want part-time jobs (Tilly, 1991). Larson and Ong (1995) have suggested that the part-time employment rate is affected by business cycles and has been found to be directly proportional to unemployment. On the other hand, Tilly (1991) argues that the growth in part-time employment is not due to long-term growth in unemployment. Nor, does Tilly believe that growth in part-time employment is due to the increasing wage disparity between full-time and part-time employees (cf, Blank, 1990). He suggests that the growth in part-time employment is

due to the sectoral shift in the United States economy from manufacturing to trade and services, industries which naturally employ more part-time employees due to the elemental nature of the workflow requirements of their customers. These industries have adopted low-wage, low-skill, high-turnover labor markets, often building around secondary jobs. Industries in trade and services have grown, in turn, because international manufacturers have expanded. Also, Tilly (1991) holds that goods which were once being produced at home are now being provided by service firms (e.g., domestic services and fast food restaurants) as women, who have traditionally supplied those services, have increasingly entered the workplace. The growing demand for business services has also added to shifts in industry composition. Employers may also increasingly be utilizing the services of part-time employees due to the trend of creating jobs which naturally fit the services provided by part-time employees (Larson & Ong, 1995; Long & Jones, 1981). For example, jobs in the retail sector, in which the employee is commonly needed for less than a standard eight-hour shift, are particularly appropriate for part-time employees (Hallaire, 1968), as are low-skilled jobs having routine and repetitive tasks (Nollen, Broz Eddy, & Martin, 1978).

Firms use part-time labor for several reasons. On the one hand, some firms use the arrangement to supplement their core workforce and provide much desired flexibility (Tilly, 1991). On the other hand, some firms have hired those employees who prefer part-time employment to bust unions (Costello, 1989). Most companies use part-time labor because it offers lower costs and because those firms believe that cutting costs and increasing flexibility is more important, at least for some areas of the organization, than maintaining a stable work force. In unionized firms, the two most frequently cited reasons for hiring part-time employees are to

gain flexibility in work schedules and to meet the employee's preference for part-time work (Zeytinoglu, 1992). While unions may try to reduce managerial flexibility in employment practices through job security clauses (Freeman & Medoff, 1984), most unions accept management's right to schedule work loads (e.g., Beechey & Perkins, 1987; Belous, 1989; Dombois & Osterland, 1987; Nollen, Eddy, & Martin, 1978; Nye, 1988). Thus, flexibility may be an important reason for hiring part-time employees by unionized firms. Part-time employees also frequently contribute to organizational flexibility by buffering against cyclical downturns (Osterman, 1988; Sengenberger, 1981).

In examining the use of part-time employees to reduce costs in unionized firms, Zeytinoglu (1992), unlike other studies (e.g., Belous, 1989; Kassalow, 1989; Nye, 1988), found only minor evidence to support the belief that wage and benefit savings is a reason part-time employees are hired by organizations covered by a collective agreement. Other literature concerning unions (e.g., Balkin, 1989; Estey, 1976; Freeman & Medoff, 1984; Gunderson, 1989; Zeytinoglu, 1987b) has similarly shown that comparable employees under collective agreements have similar compensation and pro-rated benefit packages. Thus, if full-time and part-time employees are paid at the same rate lowered employee costs will decline as a reason to hire part-time employees (Zeytinoglu, 1992). Montgomery and Cosgrove (1993) have also found that as fringe benefits rise and if those benefits are paid out equally to employees regardless of the number of hours worked, the usage of part-time employees will significantly decline. On the other hand, increasing fringe benefits, in which part-time employees are ineligible for some or all benefits, increases the likelihood that the firm will use part-time employees (Montgomery, 1988). Daski (1974) has found that medical insurance, life insurance, and retirement benefits are likely to be offered only to

full-time employees, while paid holidays and vacations are about as likely as not to be prorated. Blank (1990a) has shown that part-time status significantly reduces the likelihood that an employee would be covered by a health or pension plan. In addition, Montgomery (1988) has found that increased firm-specific training costs for some firms will significantly reduce the reliance upon part-time employees to such an extent that the training given to employees will not differ between part-time and full-time employees. In non-unionized firms it has been suggested that employers will hire part-time employees for two basic reasons. First, Montgomery (1988) has held that part-time employees are used to reduce employment costs. Lower costs arise from fewer fringe benefits (Ichniowski & Preston, 1986; Zedlewski, 1991), less overtime pay (Belous, 1989), declining union influence (Tilly, 1991), and greater productivity by part-time employees (Hallaire, 1968).

Supply side factors that have contributed to the rapid increase of part-time employees have included the increased labor participation of those groups (women, teenagers, and older employees) who have traditionally been associated with part-time employment (Golden & Applebaum, 1992; Howe, 1986; Nardone, 1986; Williams, 1995). The greater propensity for those groups to be affiliated with part-time employment has been attributed to a larger desire for schedule flexibility because of home or school responsibilities (Nardone, 1986; Tilly, 1991), and to the use of part-time employment as a bridge to retirement by older employees (Ruhm, 1990). Part-time work may also be attractive to women due to the desire to supplement income and the inability to find a full-time job (Christensen, 1988). Williams (1995) has found that the part-time employment rate is higher for women than for men because women have greater probabilities of transitioning from full-time employment to either part-time employment or nonparticipation in the

labor force, and lower probabilities of transitioning from part-time employment to either full-time employment or unemployment. At the same time, Williams has also found that the part-time rate for women has been falling as their rates of transition from full-time to unemployment or nonparticipation are falling, while their rates from part-time and nonparticipation to full-time employment have been rising. Other studies (Beechey & Perkins, 1987; Lever-Tracy, 1988) have suggested that employers' assumptions that women are more appropriate for part-time work than men may also affect employment practices. Employers may also hire more part-time employees if they cannot find employees who are willing to work longer hours (Nollen, Eddy, & Martin, 1978). In contrast, Bednarzik (1975) has noted that involuntary part-time employment is more common among younger, less educated, minority employees, and female employees. Stratton (1996) has also examined several demographic facets and their relationship to the desirability for part-time employment. For example, he found that race has little statistical importance on employment arrangements for men, but nonwhite women are significantly more likely than white women to desire full-time employment.

Contract Labor

Contract labor include those jobs with temporary help agencies, independent contractors, employees of contract companies, and on-call employees (Cohany, 1996; Polivka, 1996b). Temporary help service employment has risen two-and-one-half fold during the early 1980s (Golden & Applebaum, 1992). Demand side explanations point to heightened international price competition and the absence of employee benefits for temps. Employers desire temporary help service employees to increase flexibility and reduce labor costs. Mangum, Mayall, and Nelson

(1985) have found support for the idea that firms will use temporary help service employees to access peripheral employees. Using external employee pools allows the organization to meet its needs for flexibility without incurring a commitment to directly employed employees, either permanently or contingently in nature. For example, many temporary help agencies will also manage the payroll of their client firms and will pay any fringe benefits offered to temporary help service employees. Of course, skills obtained through external labor markets must, by definition, be generic. Contract labor arrangements, such as using temporary service agencies, also eliminate searching, screening, hiring, and training costs (Mangum, Mayall, & Nelson, 1985). Segal and Sullivan (1997) have found that firms will use temporary service employees to gain flexibility, screen prospective employees, decrease restrictions on employee dismissals (cf., Grubb & Wells, 1993), and to gain access to specialized skills (Abraham & Taylor, 1996). Temps fill in for permanent employees who are ill, on vacation, or are taking maternity leave. During periods of downsizing, they enable managers to handle the work load while meeting personnel limitations and they augment the firm's core employees during periods of increased staffing needs. They may also bring specialized skills to the organization, which may be required only sporadically (Cohany, 1996). In addition, Davis-Blake and Uzzi (1993) have found that variation in employment needs, bureaucratized structures, establishment size, and being part of a multiple site firm had positive effects on the use of independent contractors by employers. Relatedly, firm-specific training, government oversight, bureaucratized structures, establishment size, and requirements for higher levels of informational or technical skill had negative effects on the use of temporary service employees; variation in employment needs positively affected the use of temps (Davis-Blake & Uzzi, 1993).

In addition to demand side determinants affecting the use of contract labor provisions unions and employee market power may also influence such employment provisions. For example, Golden and Applebaum (1992) and Way (1988) consider the declining union power base to be an important factor in the growth of temporary help service employees. If the firm's goal is to reduce costs and increase flexibility by using more contingent employees and the union's goal is to increase the number of core jobs by reducing contingent work then the difference between the relative power of management and unions may effect employment structures. Employer latitude in setting human resource structures depends, in part, upon the inequality in bargaining power between management and unions (Kaufman, 1989, 1991). Freeman and Medoff (1981a; 1981b) have found that even with a union being present in a firm the union's ability to attain its goals has differed over time. Lazerson (1995) has also considered the relationship between contract labor and unionization in Europe. The usage of contract labor arrangements has increased even though union power has declined and the wage differential between contract labor and the firm's employees has all but vanished.

Supply side effects including the reasons employees enter into contract labor jobs may also affect the determinants of external labor markets. The primary reason given by employees for entering into contract labor arrangements was to obtain flexibility (Laird & Williams, 1996; Segal & Sullivan, 1997). Although the primary reason employees enter contract labor arrangements is to gain flexibility there are several other reasons such as being unable to find other work or wanting to learn about a number of different jobs or firms. Some contract labor arrangements, such as contracting, may provide the employee with more flexibility and lucrative employment opportunities (Polivka & Nardone, 1989). In addition while some employees enter contract labor

arrangements involuntarily, as a proportion of the total employed, they may be relatively few in number (Polivka, 1996b). That is, contract labor arrangements may offer individuals paths into the labor market they otherwise would not have, and provides them with flexibility that helps them balance their work with other responsibilities. Without contract work, it is suggested, individuals with poor access to jobs or with conflicting needs would either be unemployed or drop out of the labor force altogether (e.g., Segal & Sullivan, 1995; Steinberg, 1996). Proponents of contract work arrangements even go so far as to insist that such structures offer employees more stable employment and greater opportunities for advancement than they would have in a traditional arrangement (Steinberg, 1996). In this light, it has been argued that the traditional internal labor market has declined and employers have changed the ways they hire and fire employees (Applebaum, 1989; Osterman, 1994; Otto, 1996; Polivka, 1996). Still, some have held that alternative employment arrangements place employees at the bottom of the economic ladder, where the employee undergoes frequent job changes with little job security and no hope for advancement (e.g., Applebaum, 1989; Callaghan & Hartmann, 1991; Mangum, Mayall, & Nelson, 1985; Quiroz, Auerbach, & Coles, 1991).

Characteristics of individual employees in contract labor settings may also differ depending upon the particular form of contract labor arrangement. For example, temporary help service employees are disproportionately young and female, temps are also more likely to be a member of a minority group (Cohany, 1996). In addition, Polivka (1996) has argued that most temps are in stop-gap positions because they cannot find work elsewhere. However, women were much more likely to give a non-economic reason (e.g., increased flexibility, family or personal obligations) for working with a temporary employment agency. Thus, there may be some justification to the idea

that temp work provides women with an opportunity to enter the job market that they might not otherwise have (Segal & Sullivan, 1995). Unlike employment in temporary agencies independent contracting seems to be entered into relatively late in a employee's career (Polivka, 1996b). Relatedly, independent contractors frequently work part-time (Cohany, 1996), part-time work among independent contractors is especially prevalent among women and older employees in those positions. On-call employees (i.e., employees who only work when they are notified to do so) have similar preferences and gender splits in their desire for their work arrangements as do employees of temporary help agencies. (Polivka, 1996b). Women, particularly those with a family at home, had the highest level of satisfaction with their work as an on-call employee. Most men and women gave an economic reason for working on call (Cohany, 1996).

Other External Labor Market Employees

In addition to employees who have contingent, part-time, or contract jobs, other employees may considered to be in an external labor market due to their job's lack of promotional opportunities and limited compensation. That is, even though the job of such employees may be permanent, full-time, and they are directly employed, the employee may not be in an internal labor market that offers job stability, advancement potential, and good benefits. Many employers will develop a key group of employees and make efforts to ensure that turnover among those employees remains relatively low. Maintenance of key employees can be expensive, but it does tie employees to the organization. The longer the employee's tenure and, thereby, the greater the investment in the employee, the more difficult it may be to terminate the employer/employee relationship. Thus, many of these same firms may also maintain a secondary group (i.e.,

employees whose jobs are in an external labor market) of employees to which the organization will remain distant and to whom they will offer little commitment.

The characteristics of the secondary employee group may be related to a number of factors at various levels. At the macro-level, for example, industries are commonly divided into two sectors, core and peripheral (e.g., Wallace & Kalleberg, 1981). Core industries tend to be comprised of firms that are larger in size, have monopolistic powers and therefore have greater profits. Peripheral firms, on the other hand, are comprised of firms that are smaller in size, operate under more competitive pressure and have less profit. Because peripheral firms have less profit they may not be able to provide the stability and larger compensation that firms in core industries do (e.g., Beck, et al., 1978; Kalleberg, et al., 1981). Therefore, firms in peripheral industries may have more employees who have the characteristics of secondary employees. Relatedly, since different regions of the country have different socioeconomic characteristics, including differences in their industrial mix, the labor market composition may differ among the regions (e.g., Cotter, et al., 1996).

Unionization and employee market power through job structure may also influence the firm's labor market composition. Freeman and Medoff (1984) argue that the union's monopoly power may cause a firm to raise wages above competitive labor-market levels. Also, individual employees may be able to extract larger concessions and better job characteristics due to the centrality or autonomy found in their job (O'Hara, 1994). Since jobs differ as to their degree of union representation and descriptions, some jobs may be more secondary to the firm than other jobs and therefore those jobs may have lower compensation rates and less opportunity for advancement.

Individual employee characteristics may also be related to the inclusion of the job in an internal or external labor market. For example, considerable research (e.g., Albelda, 1986; Beller, 1984; Bianchi & Rytina, 1986; Blau, 1977; Blau & Hendricks, 1979; England, 1981; Gross, 1968; Jacobs, 1989a, 1989b; Trieman & Terrell, 1975; Williams, 1976, 1979) has been performed examining the racial and gender labor force inequality. The general consensus of such work has found that differences do exist in the job conditions and characteristics among racial and gender groups. White men tend to be paid more, have better job conditions and have more potential for career advancement than either women or men in other racial groups (e.g., Beller, 1982; Blau & Hendricks, 1979; England, 1981; Tomakovic-Devey, 1993). Therefore, women and minority employees may have a greater likelihood than white males of having a job in an external labor market.

Overview of the Study's Theoretical Basis

This section will present an overview of the theoretical basis of the present study which will be developed in greater detail in the next chapter. Institutional theory (Selznick, 1948, 1949) posits that organizations interact with their environment to ascertain materials, information, and human resources. Thus, organizations become reliant upon their environment and encounter environmental uncertainty (cf. Aldrich & Pfeffer, 1976; Pfeffer & Salancik, 1978). Frequently organizations may desire to buffer (i.e., protect) their core elements against environmental vagaries (Thompson, 1967).

Several techniques are utilized by organizations to buffer against environmental ambiguities. Once frequently adopted buffering approach by the firm is to develop internal labor

markets. Internal labor markets commonly provide for the inclusion of job ladders with entry limited to lower level positions and progress upward tied to the enhancement of skills and knowledge and seniority rights (Althauser & Kalleberg, 1981; Doeringer & Piore, 1971). These arrangements are used to foster employee commitment to the firm by offering increased compensation levels, enhanced employer allegiance, and the possibility for advancement. Still, internal labor markets can also dramatically increase the costs tied up in human resources and reduce the employer's decision making flexibility, particularly if a majority of the jobs within the organization are contained in internal labor markets. Spot markets may also be used for jobs contained in the peripheral areas of the firm.

External labor markets offer the firm increased flexibility so that environmental changes can be met and human resource costs lowered. Jobs that are not in the core and thus not as often buffered against environmental vagaries are often recruited from external labor markets. However, using such arrangements increases organizational uncertainty since employees may not be as committed to the firm as employees in internal labor markets. Williamson and others (1981; Williamson & Ouchi, 1981), in advancing transaction cost theory, have suggested that transaction costs will determine the form of organizational practices, including the selection of labor markets. In choosing between internal and external labor markets employers consider costs, employee flexibility and commitment (cf. Crozier, 1964; Goldner, 1970). Markets are then selected based upon the overall ratings of those variables. Since the vitality of jobs to the organization's continued livelihood may differ many organizations will select employees from both internal and external labor markets (Althauser & Kalleberg, 1981; Doeringer & Piore, 1971; Osterman, 1975).

Chapter Summary

This chapter discussed previous macro-, meso-, and micro-level external labor market research, briefly overviewed internal labor market research, and presented the theoretical argument underlying this dissertation. Previous macro-level external labor market research has assumed both an excessive degree of homogeneity between and within departments and an unconstrained managerial choice. Micro-level research, while recognizing diversity within firms, has largely failed to examine the interweaving effects that job characteristics, coalitional power bases, and technology can have on determining organizational structures.

It was proposed that a better understanding of external labor markets can be attained by recognizing the limits of labor control and efficiency considerations. It was also suggested that external labor markets are the result of interaction among multiple factors.

The following chapter details the theoretical justification for selected research hypotheses. Research objectives, research questions, and hypotheses are also provided.

CHAPTER 3

THEORETICAL BASIS FOR THE STUDY AND RESEARCH OBJECTIVES, QUESTIONS AND HYPOTHESES

This chapter outlines and discusses the theoretical basis of the study and the research objectives and questions used to study and test the stated hypotheses. It is arranged into four major sections: (1) theoretical basis for the study, (2) research objectives, (3) research questions, and (4) hypotheses.

Theoretical Basis for the Present Study

As Donne has suggested, “no man is an island, entire of itself,” so it is with the organization (e.g., Ashby, 1968; Buckley, 1967). This section will suggest reasons external, internal and dual labor markets are formed.

Every organization exists in a specific physical, technological, cultural, and social environment to which it must adapt. No organization is self-sufficient; all depend for survival on the types of relations they establish with the larger systems of which they are a part. (Scott, 1992: 20).

Similarly, Cappelli and Sherer (1991: 75) argue “that the responses of individual employees are affected by the external environment, particularly developments in the labor market, in part because individuals in their role as workers maintain an attachment to the outside

labor market in case they need to enter it.” That is, in order to understand the decisions and processes that occur at the individual or micro-level it is necessary to consider the external environment, or macro-level, structures and processes. Cappelli and Sherer continue by noting that a link between micro-level organizational research and its context does not exist in extant theory because of the conservative nature of paradigm development and the desire of scholars to be consistent with previous research. That is, researchers who abide by conservatism and consistency of “proper science” may never form a link between the macro- and micro-levels in organizational theory simply because it never has been done that way in the past. Furthermore, while organizational behavior considers the individual to be the apex of paradigm development, research on phenomenism (e.g., Ayer, 1940; Hirst, 1959; cf. Cartwright, 1979; Simpson, 1981) points out the problematic nature of relying upon the perceptions of the individual to portray an accurate, objective recounting of the facts, including the external environment. Therefore, a link may be needed to tie macro-level, sociologically based research and micro-level, psychologically based research. Cappelli and Sherer (1991; cf. Herman & Hulin, 1972; Rousseau, 1978, 1985) call for research to be done on the mezo-level and for such research to tie to the macro- and micro-levels. Cappelli and Sherer, further note the specific structure of labor markets, including internal labor markets and unions, and point out the bridging role that firms and their processes and structures (e.g., jobs) have in enhancing our understanding of macro-, meso-, and micro-level phenomena.

The organizational environment can be thought of as those influential factors that are external to the organization which affect the organization’s structure and function. By acknowledging the presence of organizational environments, the idea that organizations operate

as loosely coupled (i.e., self-organizing), open systems (i.e., environmentally associated) is advanced. Bertalanffy and associates (1956) proposed that similarity exists within different levels of natural and social life by noting that things as varied as atoms, cells, organs, ecological communities, social groups, organizations, societies, and solar systems all exist as systems. Systems consist of interrelated parts whose actions and reactions affect other parts and the entity as a whole. While similarity and comparability can be noted from these characteristics, it is these same characteristics that enable uniqueness to exist among systems. Mechanistic systems, for example, are relatively stable while organic and social systems tend to be much more complex and variable. In addition to considering differences among system totality the interrelationships of component parts also differ among systems. Some systems have components that are highly interrelated and changes in one part may produce varied reactions in other parts while other systems have much less interaction and whose changes are more linear and predictable. Mechanistic systems tend to be composed of elements that have relatively constrained and deterministic interactions. On the other hand, Wiener (1956) has noted that organizations are composed of parts that are interdependent, but such interdependencies differ among organizations. Organizations tend to have interacting parts that are looser and have less constrained reactions to changes arising from variances in other components. Social organizations, as opposed to mechanistic structures, may be loosely coupled (e.g., Ashby, 1968; Buckley, 1967).

Loosely coupled systems are composed of elemental parts that are relatively autonomous in their decision making and are thereby weakly connected to deterministic, mechanical processes (Ashby, 1968; Glassman, 1973). Rules and stated goals do not always govern actions in loosely

coupled systems (March & Olsen, 1976). Loosely coupled systems have also been described as consisting of shifting, political coalitions (Cyert & March, 1963; Pfeffer & Salancik, 1978) whose goals and members may change over time.

Another difference among systems is the importance of various flows among the system's components and between the system and its environment. The major flows that occur within a system and between the system and its environment include materials (e.g., employees and the potential for work to be done) energy (e.g., employee effort and task performance), and information (e.g., employee knowledge). Buckley (1967) has also noted that as the system becomes more advanced information flows tend to become more important for the system's function. It is via the flow or throughput of resources and thereby the interaction with their environment (i.e., open systems) that organizations and other social systems are capable of self-maintenance (Buckley, 1967). Pondy and Mitroff (1979: 7) have noted that "it is precisely the throughput of nonuniformity that preserves the differential structure of an open system."

Interacting with their environment, open systems will use both boundary maintenance and boundary spanning techniques. Thompson (1967: 19) has proposed that "under norms of rationality, organizations seek to seal off their core technologies from environmental influences." Organizations will attempt to control those key processes that allow them to pursue their goals. This may be particularly true for those organizations that engage long-linked technologies (Thompson, 1967). Long-linked technologies involve organizational processes having a series of sequential, interdependent production activities, such as a factory assembly line. Organizational effectiveness where long-linked technologies are present depend upon the organization's environment for a source of supply for inputs and demand for standardized outputs, but long-

linked technologies, while they may be effective and efficient, are also relatively inflexible and therefore assailable to environmental change and uncertainty. Therefore, organizations in general, and those having long-linked technologies in particular, will attempt to obtain determinateness and stability to counteract environmental uncertainty.

In addition to adopting boundary maintenance techniques organizations may also engage boundary spanning. General system theorists (e.g., Bertalanffy, 1962) consider the resultant effects of entropy to be one of the key distinguishing factors of open and closed systems. The second law of thermodynamics proposes that all systems will spontaneously move toward a state of increasing entropy. That is, they will experience an increasing randomness and chaotic nature. Their structures and processes will dissipate until a maximum state of disorder ensues. Open systems, due to their interacting with their environment and taking in energy therefrom, can encounter negative entropy (i.e., negentropy) and by taking in inputs having a greater degree of complexity than their outputs, open systems can increase their own energy and counteract structural and procedural dissipation. Thus, open systems may engage both boundary maintenance and boundary spanning techniques when interacting with its environment.

Buckley (1967) has termed these two properties of open systems morphostasis and morphogenesis. Morphostasis involves those activities that tend to maintain a system's structure and processes. Organizational morphostatic processes are exemplified by socialization and organizational control. Morphogenesis include those processes that involve growth, learning and differentiation. By engaging the organizational environment organization's tend to become more differentiated and complex in nature. Social organizations via loose coupling and the variability

inherent therein tend to change their structure and processes over time and thus organizational variability ensues.

At the same time, organizational integrity is dependent upon its environment.

Organizational diversity and the maintenance of complex systems require a complex environment.

Pondy and Mitroff (1979: 7) have noted that “a system will exhibit no more variety than the variety to which it has been exposed in its environment.” Thus, the degree of complexity in which an organization will exhibit is dependent in large part upon the complexity and uncertainty found in its environment and the degree to which the organization is dependent upon its environment.

Organizations interact with their environments in order to obtain resources and information (Aldrich & Mindlin, 1978). Organizations depend upon the environment to provide resources and organizations also engage their environments to obtain information and mollify uncertainty. Thus, the degree to which the organization will attempt to span the boundaries between itself and its environment is a factor of the dependency and uncertainty which it faces (cf. Emery & Trist, 1965).

Proponents of resource dependency theory (e.g., Aldrich & Pfeffer, 1976; Emerson, 1962; Pfeffer & Salancik, 1978) argue that there are several factors that affect the dependency of an organization upon its environment. First, environmental dependency is contingent upon the scarcity of resources found within the environment (i.e., environmental munificence). If the environment has abundant resources which are readily obtainable and useable by the organization, then relatively less dependency will be experienced by the organization (Aldrich, 1979; Pfeffer & Salancik, 1978) . Second, even though there may be an excess of resources in the environment if those resources are not readily available then the organization may still experience greater

environmental dependency. That is, if the resources found in the environment are more concentrated in location and less disperse than those organizations, particularly those located in the hinterlands, may have more environmental dependency than if resources were more readily available (Nutter, 1968; Pfeffer & Salancik, 1978). Third, the degree to which the organization's environment is composed of other interacting entities may affect its environmental dependency. If the elements which comprise the organization's environment tend to act in concert then the organization may experience greater levels of environmental dependency because one element of its environment may affect the decisions made by other environmental entities. On the other hand, if the actions taken by those environmental components are favorable to the organization then the organization may develop structures and patterns which may also allow the organization to become more dependent upon its environment since those favorable environmental actions may be reinforced through the concerted environmental efforts (Scott, 1992). Therefore, the more scarce the resources, the higher their concentration, and the greater degree of accord exhibited by environmental entities the greater the dependency of the organization upon its environment is likely to be.

In addition to having differential effects that are related to the degree of environmental dependency possessed by the organization, organizational structures and processes may also be affected by the degree of uncertainty which exists in an organization's environment. There are a number of interrelated factors that may cause an organization's environment to be more or less uncertain. First, environments that are more heterogeneous tend to produce more uncertain conditions for the organizations which reside therein. If the organization has to interact with other entities that are more varied in nature, then the organization may encounter more

uncertainty in its decision making (Dill, 1958; Thompson, 1967). Second, if the organization's environment is comprised of entities that are undergoing greater amounts of change and variability, then the organization may face more uncertainty (Lawrence & Lorsch, 1967; Thompson, 1967). Third, if the organization is more vulnerable to its environment, then the organization may face more environmental uncertainty. That is, if the unforeseen consequences of environmental actions may more dramatically affect the integrity of the organization, then the organization operates under relatively more environmental uncertainty (McKelvey, 1982). Fourth, if the organization is more directly tied to the actions of a larger number of environmental entities, then it may experience greater levels of environmental uncertainty (Pfeffer & Salancik, 1978). Fifth, in general, if the actions and decisions of the entities in an organization's environment have looser couplings amongst themselves, then environmental uncertainty increases since the loose couplings may allow for increased variation in decision making (Jurkovich, 1974). In summation, the organization will tend to face greater environmental uncertainty if the environment is more heterogeneous or variable, the organization is more vulnerable to its environment, greater interconnectedness exists among environmental entities, or the environmental entities have less concerted action amongst themselves.

Dess and Beard (1984) have proposed that environmental analytical dimensions can be reduced to three factors. They have suggested that 1) munificence (i.e., environmental capacity), 2) complexity (i.e., environmental homogeneity-heterogeneity and environmental concentration-dispersion), and 3) dynamism (i.e., environmental stability-instability and environmental turbulence) can account for the differential characteristics of organizational environments. As previously noted, organizations operating under environments that are less munificent, more

complex, and more dynamic may be more dependent upon their environments and/or they may operate under more uncertain environmental conditions.

Industrial segmentation theorists focus upon industrial sectors when considering the environment that the firm operates in (cf Tolbert, 1983). Firms operate in environments that have uneven economic and social development. Due in part to different socioeconomic factors the organization of work and production is structured in different fashions by firms within their respective industrial sectors (Edwards, 1975). Scholars examining the dual economy thesis, for example, posit that a two-sector scheme exists in which production in one sector takes place within an oligopolistic organization and in the other sector by competition (Averitt, 1968; Beck, Horan, & Tolbert, 1978).

These different production structures in turn are considered to directly influence the nature and structure of labor markets within the sectors (Beck, Horan, & Tolbert, 1978, 1980; Bluestone, Murphy, & Stevenson, 1973). The structure and processes of labor markets operating within the oligopolistic (core) sector are, in part, determined by the economic scale of the powerful industries and firms therein, and tend, therefore, to be comprised of hierarchically and/or bureaucratically organized structures (Edwards, 1975, 1979). In contrast, labor markets in the competitive (periphery) sector are influenced by an inherent instability and use simpler forms of organizational structures that are characterized by limited hierarchies (Edwards, 1975, 1979).

Given the resources that are available to firms within the differing industrial sectors, job conditions and compensation levels tend to differ and therefore employee characteristics may differ between the sectors. For example, employees in the core sector encounter stable bureaucratic work structures and a preponderance of internal labor markets (Doeringer & Piore,

1971). On the other hand, employees in periphery industries face instability and simpler forms of work organization, such as arbitrary, personnel supervision (Edwards, 1979).

Regardless of the type of environment facing the firm very few organizations will take up the challenge of totally creating their technologies; rather, they rely upon their environments for equipment, information, and trained personnel. By utilizing the outside training of personnel the organization also takes on the previous socialization and associations (e.g., unions and professional societies) of those employees. The environment also provides the organization a means of obtaining its structural form, as most organizations borrow formal structures from their environment. In like manner, the organization is not the sole entity affected by the organization-environment relationship. Rather, the organization will also attempt to affect its environment and shape it according to its goals.

For an organization to survive, it relies upon a wide variety of individual actors. Those individuals will remain with the organization as long as their own unique goals are being met. Individuals will strike up exchanges with the organization in order to ascertain their goals and the length of incumbency with the organization will depend upon the differential value between remaining with and leaving the organization. Thus, many participants in the organization will have goals that are often different from the organization's goals. In order to obtain those goals, associations and structures will be formed by both individual participants as well as by the organization. As differing sets of goals exist within the organization, the organization is not capable of directing its full attention to output productivity. Rather, all organizations must engage in both production and maintenance (Gross, 1968; Perrow, 1970). Fundamentally, organizations are social groups who, like other social groups, have the primary goal of surviving.

The organization is capable of surviving given that it has a regular throughput of resources obtained from its environment (Bertalanffy, 1962; Buckley, 1967). From the reliance of the organization upon its environment a dependency is formed (Aldrich & Pfeffer, 1976; Pfeffer & Salancik, 1978). Thus, the organization itself should not seek protection against its environment, rather it should embrace its environment (Pondy & Mitroff, 1979). Still, the organization may attempt to protect its core technology from environmental vagaries (Thompson, 1967).

Technology includes “the physical combined with the intellectual or knowledge processes by which materials in some form are transformed into outputs” (Hulin & Roznowski, 1985: 47; cf., Litwak, 1961; Perrow, 1967, 1970; Thompson & Bates, 1957; Woodward, 1958, 1965). An organization’s core technology is composed of the organization’s central tasks and the job skills required to carry them out.

When dealing with its environment, the organization faces many decisions (e.g., Chandler, 1962; Child, 1972; Schreyogg, 1980). Organizations will attempt to actively shape their environments. Organizations make many decisions about adapting or “enacting” (Weick, 1969) their environment to the organization’s benefit. Organizational strategic decisions about its environment have three characteristics (Aldrich & Pfeffer, 1976). First, rather than strict environmental determinism existing, decision makers in the organization have autonomy. For example, the organization can choose to enter or leave a niche, and it plays a role in choosing its human resources structure. Second, the organization may attempt to manipulate its environment. An organization may lobby for favorable legislation, or it may try to limit union representation of its employees. Third, different organizational members may perceive the environment quite differently (cf., Starbuck, 1976). Organizational actors view the environment with different perspectives based upon their backgrounds and individual goals. Still, the organization does not

have total control over its environment. In part, the different environmental viewpoints and the way in which the organization acts to meet the constraints and uncertainties posed by the environment is dependent upon the level of power possessed by the various organizational members (Hickson et al., 1971). Thus, the environment is tied to choices made operating under the organization's power bases.

Women and minorities have traditionally had less power than white males and therefore tend to receive differential outcomes from their jobs (e.g., Albelda, 1986; Beller, 1984; Bianchi & Rytina, 1986; Blau, 1977; Blau & Hendricks, 1979; Carlson, 1992; England, 1981; Gross, 1968; Jacobs, 1989a, 1989b; Tomaskovic-Devey, 1993; Trieman & Terrell, 1975; Williams, 1976, 1979; cf. Carlson, 1987; England, 1981; Reskin & Hartmann, 1986). Two reasons racial and gender differences may develop are due to differences in educational attainment and job experience (Becker, 1957) and due to jobs being stereotyped (Acker & Van Houten, 1974; Bielby & Baron, 1985; Caplow, 1954; Treiman & Hartmann, 1981), particularly among men and women. Racial and gender differences may also emerge due to the development of social structures that utilize exclusionary social closure processes (Murray, 1988; Parkin, 1979; Weber, 1968). The social closure thesis contends that status groups having greater power bases are able to create and preserve their identity by controlling certain opportunities for their members. That is, the most powerful groups reserve the bulk of the most desirable positions for themselves. An important point of the social closure thesis is that advantaged white male employees tend to benefit from and, therefore, work to maintain such exclusionary standings (Tomaskovic-Devey, 1993).

Two related organizational closure arguments are the dual-economy theory (Edwards, 1979; O'Conner, 1973) and the neoclassical economic thesis of the "tastes" for discrimination (Becker, 1957). In general, the dual-economy argument has traditionally held that high-resource

organizations (i.e., oligopolistic large firms) can afford to employ higher-paid white male employees in internal labor markets. In both the dual labor market and neoclassical traditions, employer discriminatory behavior is thought of as a means to maintain white male privilege.

A parallel argument to job closure is that more highly skilled and advantaged jobs are reserved for white males even in peripheral industries (Bonacich, 1972, 1976; Cockburn, 1988; Edwards, 1979; Halaby, 1979; Marshall, 1974; Walby, 1986). Therefore, the thesis implies that women and minorities may be employed in the core industrial sector, only in disadvantaged jobs with low skill requirements (i.e., in external labor markets). Still, those jobs that may be primarily held by women and minorities (i.e., jobs in external labor markets) are important as they enable the firm to gain flexibility and therewith continue even though environmental uncertainty may exist.

Attributional theory (e.g., Eberhardt & Randall, 1997; Hewstone, 1990; Hilton & von Hippel, 1996; Jones, 1997; Mackie, Hamilton, et al., 1996; Rothbart & Taylor, 1992; von Hippel, Sekaquaptewa, & Vargas, 1995; Yzerbyt, Rocher, & Schadron, 1996) argue that by stereotyping individuals on demographic characteristics the perceiver believes that the stereotypic characteristics reside in the essence of the target individual. Hewstone (1990) in examining interethnic comparisons noted that the ingroup will attempt to protect its interests through internal positive attributions of ingroup members. Social identity theory (Tajfel & Turner, 1986) posits that positive identity arises from the favoring of the ingroup, often resulting in disadvantageous treatment of the outgroup (cf., Brewer & Brown, 1998). If the ingroup should be threatened, then enhanced feelings of anxiety may result in increased levels of stereotyping (Fiske, Morling, & Stevens, 1996; Stephan & Stephan, 1984; Wilder & Shapiro, 1989a, 1989b).

Thus, self-esteem maintenance by ingroup members may necessitate outgroup derogation (Gilbert, Fiske, Lindzey, 1998). Pettigrew (1979) has suggested that the “ultimate attribution error” is the tendency to accept the good for the ingroup and the bad for the outgroup as personal and dispositional (cf., Newcomb’s similarity attraction paradigm). For example, Deaux (Deaux, 1984; Deaux & Emswiller, 1974; Deaux & LaFrance, 1998) argues that women’s success in traditionally male jobs was attributed to luck, whereas men’s comparable success was attributed to ability.

As previously stated, all organizations rely upon their environments for resources. Thus, all organizations engage in exchanges to obtain those resources and are therefore subject to environmental instabilities. In order to minimize environmental variability many organizations will attempt to buffer themselves, particularly their technological core (Thompson, 1967). Thompson holds that buffering will be used most frequently by organizations that have long-linked technologies. Long-linked technologies are sequential, interdependent tasks, such as assembly lines (Thompson, 1967). Buffering is especially suitable for long-linked technologies with jobs having high degrees of interdependence because shortages in one job can produce serious consequences in meeting the requirements of other jobs in the link. Thus, the organization will often utilize buffering techniques and attempt to create artificial environmental closure for jobs located within long-linked technologies, especially if the link is associated with a core technology of the organization.

There are several buffering techniques that organizations use to attain the stability and certainty needed to deal with the uncertainties of their environment. One buffering mechanism that many organizations utilize is internal labor markets. Williamson and Ouchi (1981) have

distinguished between hard and soft contracting. Soft contracting, which is common in internal labor markets, entails more developed employment structures (including job ladders, grievance procedures, and pay scales) and more trust between labor and management. Thus, internal labor markets constitute a mechanism for closing off environmental influence and the employer's status gains value as employees who have received greater company-specific training are less likely to exit the firm. However, just because internal labor markets have a more thoroughly developed structure does not necessarily mean that the jobs found therein are more tightly coupled to the organization (Parsons, 1960). Jobs found in internal labor markets often have high degrees of individual initiative and thus such jobs frequently experience a reduction of hierarchical dependence. Meyer and Rowan (1977) suggest that the jobs found in technical cores often go beyond simply being loosely coupled to the organization. They believe that there is a decoupling of technical core activities and formal organizational structures. While organizations may adhere closely to the ritual categories as determined by the environment, at the operational level there may be little organizational control or coordination (Meyer & Rowan, 1977).

Individuals in technical core positions, being in jobs central to the organization's survival, having increased discretion over their job tasks, and not necessarily having goals that are congruent with the organization's goals, often have increased power bases. Cyert and March (1963) have held that the organization is composed of coalitions of groups and individuals who come together in the pursuit of common interests. Each group attempts to persuade the organization to work toward attaining their individualistic aspirations. Individual members of the organization will seek out other members having interests similar to their own and they will bargain with other groups who fulfill necessary tasks to obtain the first party's goals, but do not

have like goals themselves. For example, a group of employees may go on strike and may seek to bargain with organizational ownership representatives in order for the employees to obtain their goals. Thus, in large part, the goals that the organization pursues are dependent upon the strength and bargaining power of the various coalitions within the organization.

There are several characteristics that determine organizational power bases. Hickson and colleagues (1971) have suggested three general determinants of power between organizational coalitions. First, they hold that those units that are able to reduce or manage environmental uncertainty are more likely to gain power (cf., Crozier, 1964; Goldner, 1970). It is not environmental uncertainty alone that creates power, rather it is the ability to successfully cope with uncertainty that leads to coalitional power. Second, “the lower the substitutability of the activities of a subunit, the greater its power within the organization” (Hickson, et al., 1971: 221). Emerson (1962) has held that interunit power is inversely proportional to the choice of alternatives for the accomplishment of the tasks performed by the unit. Thus, for example, those positions having the highest degrees of firm-specific training are more likely to have more power due to the organization’s inability to locate other individuals having firm-specific knowledge. Third, the more central those tasks performed by the unit are to the organization’s survival the stronger the unit’s power base tends to be. Centrality has two aspects: ubiquitousness - “the degree to which the workflows of a subunit connect with the workflows of other units” - and primacy “the speed and severity with which the workflows of a subunit affect the final outputs of the organization” (Hickson, et al., 1971: 221-22). It has been suggested that the greater the centrality of the organizational unit, the greater its power (Rothschild-Whitt, 1970; Rothschild & Whitt, 1986). Hinings and colleagues (1974) have found that in coping with environmental

uncertainty immediacy, nonsubstitutability and pervasiveness, in declining order, tend to increase the unit's power base. Meyer (1978) has suggested that unit power is more dependent upon the degree to which the unit has contact with the environment. It has also been found that as environmental conditions vary, power within the organization will shift from group to group (Fligstein, 1987; Perrow, 1961). Several studies (e.g., Crozier, 1964; Galbraith, 1967; Hickson, et al., 1971; Perrow, 1961; Thompson, 1967) have suggested that dispersion of power within the organization has increased substantially over time and as the organization grows in size, as influenced by organizational technology and its task environment.

The formation of internal labor markets tends to increase incumbent power due to several reasons. First, jobs in internal labor markets are often in the firm's core areas. Second, such positions frequently have discretion in their decision making. Third, by encompassing buffering techniques the organizational structure is specifically being designed to reduce and thus deal with environmental uncertainty, particularly if those positions are in long-links. Fourth, due to firm-specific training the ability to substitute positions in internal labor markets from the environment is problematic. Thus, such positions have the potential for having powerful bases. Positions in internal labor markets have only the potential, and not necessarily the actuality, of commanding large degrees of organizational power because rarely does one individual employee, excepting possibly for positions in top management, have the ability to control a large amount of power on their own individual accord, particularly as the organization grows in size. Rather, it is through associations, such as unions or professional associations, in which the combined strength of numerous employees may wield power in the organization. Also, the potential for power tends to be realized as the relative demand to supply for the position increases.

Given the different, and potentially conflicting, goals that various coalitions may have within the organization and given that closing off organizational tasks may tend to increase the power of their incumbents, ownership interests may be hesitant to include all tasks in more formal structures such as internal labor markets. The need to buffer functions from the environment may be particularly lacking if those functions are in the organization's periphery or if the environment is more stable. Thus, facing the potentiality of creating structures that may increase coalitional power for units whose goals may not necessarily be in congruence with the goals of the organization's ownership, but also desiring to buffer core technologies from environmental vagaries the organization may choose to utilize more than one structural arrangement. Galbraith (1973: 2) has suggested that "there is no one best way to organize" and "any way of organizing is not equally effective." In like fashion, Weick (1979: 215) has proposed that "organizations continue to exist only if they maintain a balance between flexibility and stability." Further, it has been suggested (e.g., Galbraith, 1973; Lawrence & Lorsch, 1967) that organizations whose internal structures best meet the demands of their environments will be more likely to survive. For example, organizations whose task environments are more rapidly changing or more uncertain face different demands than organizations having more stable or better defined environments and technologies. Lawrence and Lorsch have also suggested that different subunits within the organization may have different external demands and, therefore, may require different structural forms. Scott (1992) has further elaborated.

To cope with these various environments, organizations create specialized subunits with differing structural features. For example, some subunits may exhibit higher levels of formalization than others; some may be more centralized in decision making; some may be oriented to longer planning horizons. Therefore, the individual organization may, for example, utilize a combination

of internal and external labor markets in order to meet the various environmental constraints and demands placed upon it.

The immediate question of the type of structure to use may depend upon whether the organization is better served by making or buying its resources. Organizations engage in exchanges or transactions with their environment (Williamson, 1975, 1981; Williamson & Ouchi, 1981) in order to further their self-interests. Simple exchanges occur through spot markets. As the organization and its environment become more complex, uncertainty increases and simple exchanges based on trust become increasingly problematic. Environments may become more uncertain by having limited knowledge about trading partners who may be opportunistic. One consequence of such occurrence is the development of hierarchies and other formal structures. With transactions coming under the organization's hierarchy, behavior can be monitored through devices such as direct supervision, auditing and other control mechanisms. Still, control mechanisms have a cost themselves and, particularly when combined with the cost of job-specific training, it may be less expensive for the organization to seek resources through spot markets (e.g., Eccles & White, 1988). Spot markets may be of particular value to the firm when resources obtained therefrom are not part of the organization's core technology. The fact that, in certain situations, spot markets may be more effective for the organization does not negate the logic of considering transaction costs, rather it simply points out that different environmental constraints and requirements may require different and multiple organizational structures (e.g., Becker & Neuhasuser, 1975; Galbraith, 1973, 1977 Lawrence & Lorsch, 1967; Negandhi & Reimann, 1973a, 1973b; Scott, 1981).

Interacting with its environment requires the organization to consider both macro and micro level structures and patterns. The interaction of macro and micro organizational elements is

due in part to actions taken by individuals for their self interests, or attempts made by individuals to obtain their particular goals. The ability to reach one's goals is contingent upon the individual's relative power base. As previously noted, the organization interacts with its environment as a source of inputs and a destination of outputs and, therefore, individuals within the organization may consider the organization's environment when working to obtain their particular goals, and interaction will thus take place between macro (i.e., the organization's environment) and micro (i.e., individuals within the organization) elements via the meso or intermediate (i.e., the organization's processes and structures) level (Cappelli & Sherer, 1991). One of the most ubiquitous meso level elements within the organization is the structuring of jobs and the formation of power within the job through organizational centrality, unique skills relevant to the specific organization and employee associations. All three levels must therefore be considered in order to better understand the organization and its processes and structures. It is also important to consider the effects that temporality can have upon macro, meso and micro elements within the organization and the interactions of those elements.

Giddens, (1984) has held that there is a duality between structure (i.e., established patterns most typically found in macro level entities) and agency (i.e., on-going action most commonly exhibited by micro level entities) and has suggested that structure and agency are inextricably linked in a temporal fashion. Repeated, ongoing actions of agents at the micro level may also develop macro level structural characteristics and those macro level structures may affect the nature of the actions that are taken (Bourdieu, 1977; Giddens, 1984; Habermas, 1987). It should also be noted that micro-level entities may act under the constraints of subjectivity. That is,

different actors may perceive the environment and its effects upon the organization in different ways and may act accordingly (Dill, 1958; Duncan, 1972; Lawrence & Lorsch, 1967; Weick, 1979).

Research Objectives

The primary objective of this study is to empirically consider external labor markets from a multi-level perspective. To more thoroughly understand external labor markets, it seems necessary (as previously suggested) to move beyond prior monological explanations (i.e., dual labor markets, industrial sectors, business-level strategies) to an exploration of multi-level phenomena. To gain a deeper comprehension of external labor markets without going beyond more traditionally observed factors may be problematic. At a minimum, a detailed examination of external labor markets must account for the diversity found in human resource structures within departments and across organizations, in addition to investigating those factors (e.g., competing coalitions) that affect this diversity and the impact of higher- and lower-level systems such as industry and individual preferences. Most of the limited micro-level research that has considered external labor markets has taken a monocular position.

The second research objective is to compare and contrast the effects various macro- (e.g., industrial characteristics), meso- (e.g., unions and job autonomy), and micro-level variables (e.g., individual characteristics) have upon the inclusion of a job within an external labor market. As previously noted in the preceding section, the majority of micro-level studies have analyzed external labor markets from one of three perspectives (i.e., operational efficiency, labor control, labor/management strife). The causal priority of the various variables found in each of these

perspectives necessitates both implicit and explicit assumptions. Some researchers (e.g., Edwards, 1979; Gordon, Edwards, & Reich, 1982) hold that the selection of labor markets is only a part of a more extensive managerial stratagem for controlling the supply, skills, and behavior of labor. Williamson (1975) and others (e.g., Doeringer & Piore, 1971), in contrast, contend the primacy of a technological imperative. Still others (e.g., Elbaum, 1984; Jacoby, 1984), have proposed that the usage of a particular labor market is dependent upon the strength of contestants in labor-management conflicts. Sufficient evidence has been advanced for each of these explanations to merit a comparison as well as consideration of the combined effects these variables have on external labor markets.

The third objective of this study is to develop a richer understanding of external labor markets by considering the combined effects that macro, meso, and micro variables have on the determination of the inclusion of a particular job within an external labor market. Boswell (1988), following Williamson's (1975) transaction cost approach, has suggested that technology creates conditions in which one group (e.g., labor) may gain power over the behavior of another group (e.g., management). This proposition is consistent with Elbaum's (1984) findings in which skilled non-union employees gained a level of control over both union and management by the nature of their central workflow positioning. In like manner, control over another group's actions may fail to ensue if a job is lacking directive technology. Nevertheless, Benson (1977) and others (e.g., Mintzberg, 1983; Scott, 1987) have asserted that power offers coalitions an opportunity to structure job-level technologies in a fashion consistent with the preservation of the status quo. Schroeder and Finlay's (1986) study of comparably skilled chemical and hospital technicians

offers support for this position. Without doubt, these perspectives (i.e., that technology creates power as opposed to power affecting technology) are not mutually exclusive. Thus, it may be more appropriate to consider the potential combined effect technology and power have upon the formation of external labor markets, rather than debating the causality between technology and power.

Research Questions

Six focal questions were investigated in this study. These questions arise from the three research objectives discussed in the previous section and bear on the relationship between technical and power variables in external labor markets, the relationship of these variables to one another, and their combined effect on the development of external labor markets. Each of these questions is delineated below.

Research Question #1: What is the relationship of macro-level variables (i.e., industrial sector and regional location) to external labor markets? More precisely, what features demarcate jobs that are and are not located in external labor markets? Do these characteristics covary or are they independent? If they covary, is the relationship similar across external labor markets?

Research Question #2: What is the relationship of meso-level technology variables (i.e., task interdependence, job autonomy) to external labor markets? What features demarcate jobs that are and are not located in external labor markets? Do these characteristics covary or are they independent? If they covary, is the relationship similar across external labor markets?

Research Question #3: What is the relationship between meso-level power variables (e.g., unionization) and external labor markets? Again, what features demarcate jobs that are and are

not located in external labor markets? Do power variables associated with formal associations (i.e., unions, professional associations) covary with a more broad based labor power indicator (e.g., labor market scarcity)?

Research Question #4: What is the relationship between micro-level variables (e.g., gender, race) and external labor markets? What features demarcate jobs that are and are not located in external labor markets? Do these micro-level variables covary or are they independent? If they covary, is the relationship similar across external labor markets?

Research Question #5: What is the relationship between the macro-, meso- (technology and power), and micro-level variables considered in Research Question #1-4? Do the variables covary among themselves? How can the differences among these variables be accounted for?

Research Question #6: How does the combined influence of industrial characteristics, technology, power, and individual characteristics relate to the existence of external labor markets? What combination of variables delineate jobs that are and are not located in external labor markets? Are different combinations of variables associated with different external labor markets?

Hypotheses

Twenty-six hypotheses were offered in eight areas to address the previously stated research objectives and questions. The hypotheses cover the relationship between: (1) macro-level industrial variables to external labor markets, (2) meso-level technology variables to external labor markets, (3) meso-level power variables to external labor markets, (4) micro-level individual variables to external labor markets, (5) macro-level industrial variables and meso-level technology variables to each other in addition to their combined influence on external labor markets, (6)

macro-level industrial variables and meso-level power variables to each other in addition to their combined influence on external labor markets, (7) meso-level technology variables and meso-level power variables to each other in addition to their combined influence on external labor markets, (8) micro-level individual variables and meso-level technology variables to each other in addition to their combined influence on external labor markets, and (9) micro-level individual variables and meso-level power variables to each other in addition to their combined influence on external labor markets.

Industrial Characteristics

Sociologists and economists consider the labor market used by firms within different industries to consist of different types of employers able to offer different types of jobs. The development of modern economic society has, they argue, tended increasingly to segment the economy into two major sectors, oligopolistic and competitive (core and periphery) whose different socioeconomic production structures and processes affect the individual job conditions and outcomes found within the sector (Rosenfeld, 1983; Wallace & Kalleberg, 1981). Employers in the competitive sector have relatively little market power. They tend to be small and labor intensive, to have relatively little profits, and to make more short-term than long-term decisions. As a result, the jobs that are commonly found in the peripheral sector have traditionally tended to be lower-paying jobs with limited skills or advancement potential, with simple, direct supervision, and little job stability (Beck, et al., 1978; Carroll & Mayer, 1986; Hallaby, 1988; Kalleberg, et al., 1981). Firms in the oligopolistic sector, who have more control over their markets than firms in the competitive sector, have traditionally been more concerned with long-term plans and stability,

had higher-paying jobs that encouraged limited turnover and offered chances for career advancement (e.g., Beck, et al., 1978; Kalleberg, et al., 1981). Relatedly, there has also been concern about the problematic nature of economic duality between jobs in the sectors (e.g., Hodson & Kaufman, 1982; Zucker & Rosenstein, 1981). That is, not all oligopolistic jobs may have favored characteristics and not all jobs in the competitive sector have disadvantaged characteristics.

Hachen (1992) argues that while industries may be distinguished by the products they produce or the services they provide, an industry is more than just a set of firms producing similar products. Industry boundaries demarcate a product market within which firms compete and those markets can be distinguished by the forms in which such competition occurs, the processing of products, and the level of demand. Both concentration levels and the degree of conglomerate domination are indicative of industrial differences in types of competition. In less concentrated competitive industries, firms compete by attempting to lower prices, which requires decreasing production costs, including labor costs. Peripheral firms, which are in less concentrated competitive industries, are more susceptible to changes in their environments than firms in more concentrated industry which can bring more influence upon the environment. Because peripheral firms have less control on their environments they tend to face more variability therein (Averitt, 1968). In contrast, in more concentrated, oligopolistic industries, firms compete by attempting to maintain market share through consistent product quality. Firms in concentrated industries tend to have longer time frames and, therefore, are willing to absorb short-term costs as they compete for industry dominance (Averitt, 1968; Karpik, 1978). Oligopolistic firms, due to their very nature, are capable of affecting their environments and thus tend to face less variability (Averitt, 1968).

In addition to the industrial sector, regional location of industries and jobs may affect organizational human resource structures and procedures. Researchers have generally found that rural labor markets face more limited opportunities than urban labor markets because of the larger population size and a more diverse range of economic activities (Bloomquist, 1990). Southerners may face particularly limited job opportunities (Falk & Lyson, 1988; LaGory & Magnani, 1979; Lieberman, 1980). Urban areas have more diversity and greater size which, in turn, opens up more opportunities for residents of those areas (Stanback & Knight, 1970). McGranahan (1988) has also noted that industries in rural areas also have the highest proportion of jobs that are in industries tied to the land (e.g., farming, mining, forestry, fishing). Moreover, such differences in industrial mix may be indicative of the proportionality of jobs found in internal and external labor markets (Falk and Lyson, 1988).

From the above arguments the following related hypotheses were developed:

H1.1a Jobs in environments with high variability are more likely to be located in an external labor market than jobs in core industries.

H1.1b Jobs in rural areas are more likely to be located in an external labor market than jobs in urban areas.

H1.1c Jobs in the South are more likely to be located in an external labor market than jobs in other regions.

Technology

For some time, the relationship between technology and organizational structure has been an important issue. Early comparative studies of this relation (e.g., Hickson, Pugh, & Pheysey,

1969; Woodward, 1965) suggested that an organization's technology was the primary influence on its structure. Woodward (1965) found that successful firms were frequently distinguished by a alignment between their operational technology (i.e., unit/small batch, mass production, continuous production) and the structural variables of the organization such as specialization and decentralization. Later work (e.g., Hickson, Pugh, & Pheysey, 1969; Pugh, Hickson, & Hinings, 1969) has noted that as organizational size and differentiation increases Woodward's (1965) findings do not hold. Rather, they contented that a direct link between technology and structure is only valid for smaller, homogenous organizations. These studies (e.g., Hickson, Pugh, & Pheysey, 1969; Pugh, Hickson, & Hinings, 1969; Woodward, 1965), in addition to others (e.g., Blau & Schoenherr, 1971; Hage & Aiken, 1967), have commonly analyzed the firm as a single unit of measurement. Similar to the macro-level studies of both external and internal labor markets discussed in Chapter 2 and in a prior section of this chapter, few studies have accounted for the technological and structural diversity found within the organization. The work of Long and Bedian (1998) is a rare exception.

Researchers utilizing a systems-oriented frame of reference (e.g., Perrow, 1967; Thompson, 1967) have developed an alternative view towards the study of technology. First, this viewpoint advances the idea that the accomplishment of organizational tasks typically requires several different technologies. For example, Gerwin (1982) has held that organizations must utilize resource acquisition, distribution, and maintenance technologies, in addition to operational technologies. Thus, the likelihood that a single technology will be utilized by all divisions, departments, and work groups found within the organization is problematic. Second, as the

systems perspective considers technology to be a means of accomplishing tasks rather than the task itself, it also suggests that technology is not just machinery. Technology can be machinery, programs, and procedures.

Task interdependence is used by Thompson (1967) to segment technology. Task interdependence, as previously noted, involves the relationship amongst jobs -- the degree to which the accomplishment of one job's tasks relies upon the performance of related jobs. Williamson (1975) and others (e.g., Alchian & Demsetz, 1972; Eisenhardt, 1985; Ouchi, 1979; Wachter & Wright, 1980) have noted that interdependence creates monitoring complexities for individual jobs. As interdependence becomes more extensive "nonseparabilities" (Alchian & Demsetz, 1972) arise that cause management's task of assigning individual performance ratings for work that is performed in teams to be increasingly burdensome. Similar to employee autonomy, this condition results in increased levels of bounded rationality or a disparity of information (Williamson, 1981). Employee autonomy produces organizational uncertainty since the firm cannot ensure that the employee will always act in its best interest. Autonomy negates the setting of organizational rules and procedures that would allow the firm to circumvent individual employee motives. It may be necessary for an organization to couple its interests with those of its employees. Frequently, this is done by establishing promotion structures and long-term benefits programs (i.e., internal labor markets). Still, the cost of such structures and programs may be overly burdensome, both in terms of costs and the reduction of flexibility, to utilize for all jobs within the firm. Therefore the firm may also choose to engage spot markets (i.e., external labor markets) for certain jobs — especially those peripheral to the firm's central focus.

In the second case, when individual productivity cannot be determined on an immediate basis because of limited information, it may be necessary to observe marginal productivity over time. That is, information relating to individual performance must be obtained gradually with a final verdict of the appropriateness of performance being delayed to a latter date. Thus, seniority and experience overtakes merit as a measurement for benefits. The coupling of individual and organizational interests once again becomes necessary to insure against “opportunism” (Williamson, 1981). However, the costs of structured seniority programs may more than offset their benefits, particularly for jobs that lack interdependence. Thus, the firm may again choose to utilize spot markets for certain jobs.

From the employee’s reference frame, interdependence creates an opportunity for control over the labor process through collective action. For example, the productivity of piece-rate employees has been found to be severely limited by materials, suppliers, and dysfunctional peer pressure (Burawoy, 1979; Roy, 1958). Edwards (1979) has also held that high levels of interdependence furthers employee control by creating production bottlenecks (cf. Elbaum, 1984). In contrast, employees holding jobs with limited interdependence may be less likely to exercise control over labor processes.

Whereas Thompson (1967) equated autonomy with interdependence, Boswell (1988) and others (e.g., Edwards, 1979; Gerwin, 1982; Williamson, 1975) view autonomy as being a conceptually distinct element of the employment relationship. That is, these researchers contend that greater levels of task interdependence do not necessarily convey lower autonomy or vice versa. For example, hospital administration positions are highly interdependent but, because of the volatile nature of the raw materials involved (e.g., people, finances, equipment, community

support), such positions also necessitate high levels of autonomy. In contrast, other jobs which are also highly interdependent may have limited autonomy because the tasks involved are more predictable and require fewer “on-the-spot” decisions. For example, while jobs on assembly lines may involve a high degree of interdependence the tasks found in such jobs are relatively foreseeable and therefore jobs on factory assembly lines may have little autonomy. This same variability also pertains to jobs that are commonly low in interdependence. For example, while the positions of tax accountant and bookkeeper both have relatively low interdependence with other jobs, due to the substantial differences in the raw materials utilized by the two positions, extensive differences in job autonomy exist. Furthermore, due to the qualities of some raw materials, even using different operational technologies does not substantially lower discretion. Thus, jobholder autonomy, while it is frequently related to interdependence, should be considered to be a conceptually singular aspect of technology.

Again, the problem facing management is one of bounded rationality (Williamson, 1981) in which an organization witnesses its ability to predict behavior, and thereby, outcomes, diminishes. Thompson (1967) has suggested that discretion produces higher levels of uncertainty and, to the degree that a firm is dependent on employees having autonomy, jobholder power is also increased. In contrast, if the firm has relatively few employees who have high autonomy then the firm will tend to have more control over labor processes as opposed to the control held by those employees. Jobholder choice also requires greater administrative costs. Higher levels of choice necessitates greater administrative costs as additional employee activities must be monitored when employee autonomy increases and there is a fixed limit of activities that can be monitored by any one supervisor. Additional supervisors entail larger human resource costs and

duplication of effort. Still, other information systems may be even more expensive (Eisenhardt, 1985). As previously noted, standardization of processes and outputs also becomes more arduous as jobholder autonomy increases. It has been suggested (Eisenhardt, 1985; Ouchi & Maguire, 1975; Mintzberg, 1983) that firms have two alternatives that they can utilize to minimize uncertainty. First, organizations can hire individuals who have outside training and professional standards whose goals are congruous to those of the organization. Or, second, firms can invest in training and cognitive development of employees internally. Generally neither of these options, as will be shown, reduces the potential for employee power. Rather, each merely shifts the employee power source to an external arrangement, either a professional association or a limited labor supply pool. Both of these options also involve a large outlay of resources, the latter also requires employees to remain with the firm long enough to reap the benefits of training and cognitive development. Given that the firm may not be desirous of paying out so large a portion of its resources, particularly for peripheral positions, the firm may instead choose to offset any losses felt in the management of uncertainty through the reduction of human resource costs by utilizing external labor markets. This scenario may be particularly attractive if uncertainty is perceived as being relatively minimal.

Power

The job-level technology variables explicated in the preceding section involve monitoring complications (Williamson, 1981) and therefore are sources of “employee control” over a labor process (Boswell, 1988), the variables to be examined in this section appertain to labor scarcity and are thus sources of “employee power” in a labor market. Williamson (1975; Ouchi &

Williamson, 1981) and several other researchers (e.g., Diprete, 1987; Doeringer & Piore, 1971; Kanter, 1984) concerned with understanding employment relations attribute this employee power to asset specificity (elaborated upon below). Althauser (1989), in contrast, has argued that the focal point in these internal labor market explanations is labor scarcity and its ensuing limitation upon organizational search and selection procedures in labor markets, not asset specificity or skills per se (cf. Fligstein & Fernandez, 1988). Both unions and professional associations, as well as asset specificity, can create labor scarcities. Each of these variables, their effect on labor scarcity, and their relationships to external and internal labor markets will be discussed below.

Asset specificity arises when jobholders have firm-specific skills or other firm-specific assets such as knowledge of company exclusive policies or procedures. Similar to monitoring difficulties, the problem inherent in asset specificity is the employee's ability to engage in "opportunistic behavior" (Williamson, 1975; cf. Matthews, 1986). Asset specificity occurs when "small numbers" (i.e., a limited number workers understand a specific operation of the firm, Williamson, 1975) arises, rather than interdependence or autonomy. Before firm-specific skills are acquired job demand and supply forces act independently and without monopolistic pressures. However, Williamson, Wachter, and Harris, (1975: 269) state that, over time

the ideosyncratic nature of... [employee] experience effectively destroys parity at the contract renewal interval. Incumbents who enjoy nontrivial advantages over similarly qualified but inexperienced bidders are well situated to demand some fraction of the cost savings which their indiosyncratic experience has generated. Therefore, through the formation of firm-specific skills and assets the labor supply

becomes limited and opportunistic behavior blossoms. Williamson, Wachter, and Harris (1975) suggest that the development of internal labor markets offers the lowest transaction cost in such cases. They suggest that internal labor markets may be effective because: (a) wages are attached

to jobs rather than individuals, (b) job promotion is from within, and (c) ports of entry are at lower hierarchical levels. Still, internal labor markets entail higher investment costs and longer commitments than obtaining human resources through the spot market. Therefore, many firms will frequently use external labor markets for jobs that require less firm-specific knowledge and assets.

While connecting compensation to jobs may negate transaction costs incurred in individual bargaining, it also increases the possibility of paying for productivity that never develops. Internal promotion structures, in which entrance to higher levels is limited to internal appointments, tie the interests of employees to their firms. By combining internal promotion structures with lower-level portal entryways, a firm is offered more protection against unacceptable productivity.

“Furthermore, employees who may have been incorrectly upgraded but latter have been ‘found out,’ and hence barred from additional internal promotions, are unable to move to a new organization without penalty” (Williamson, Wachter, & Harris, 1975, p. 274). Internal labor markets thereby meets the problems of labor scarcity by creating an internal supply within the organization. Still, internal labor markets imply long-term commitments to employees, commitments in which either organizational preference or environmental pressures, may not allow. Also, internal promotion ladders require significant investment of firm resources and career ladders are not as easily developed for some jobs as they are for others. Therefore, firms frequently utilize external labor markets for some jobs, particularly if the job does not involve a limited outside supply.

While asset specificity creates employee power in the market place, collective structures such as unions and professional associations are also sources of employee power by restricting

supply pools in the external market. Boswell (1988) has contended that one reason credentialing is instituted is to limit labor supply so that “small numbers” negotiating can be engaged (cf. Mintzberg, 1983). Internal labor markets have been linked to unions in several studies (e.g., Elbaum, 1984; Kahn, 1976), holding that unions embrace internal promotion arrangements, on-the-job training, and favorable treatment of more experienced employees. Indeed, Pfeffer and Cohen (1984) upon finding a negative relationship between unions and internal labor markets suggested that the findings may be effected by seemingly disparate union stands that support seniority on the one hand, but restrict employee movement between firms on the other. Baron, Davis-Blake, and Bielby (1986) have suggested that the positions that unions take may depend more upon the types of skills employees in the organization possess. They suggest that if employees have firm-specific skills then unions will support promotional opportunities as employee mobility between firms is already limited, but if employees have generic skills then unions will be more likely to favor issues that advance mobility and employment conditions. Positions in external labor markets are less likely to be unions than those in internal markets because those positions are often found in peripheral sectors of the firm that offer fewer opportunities for the fostering of employee collective associations.

Professional associations, unlike unions, have repeatedly been linked to a lack of internal labor markets. For jobs such as physicians, lawyers, accountants, and engineers, Williamson (1981) has noted from a transaction cost perspective, “unless these skills are deepened and specialized to a particular employer, neither employee nor employer has any special interest in maintaining a continuing employment relation.” Several other researchers (e.g., Hall, 1987; Mintzberg, 1983; Pfeffer, 1981; Scott, 1987) have contested that in addition to the protection of

skills, the primary function of professional associations is to protect member autonomy and mobility. Since the skills requirements for jobs in external labor markets are seldom extensive (nor are they typically firm-specific) such jobs are less likely to be represented by professional associations, this is particularly true as the very nature of external labor markets does not hinder employee mobility and jobs found in external labor markets rarely have high degrees of autonomy that require protection.

Boswell (1988) has argued that there are several variables that affect organizational structure and that the lack of firm-specific skills alone does not always preclude the formation of internal labor markets (cf. DiMaggio & Powell, 1983; Finlay, 1983). This is particularly true in those situations “where market restrictions are codified through union contracts or state certification,... [and] market restrictions can become reified and continue to exist even when deskilling has occurred” (Boswell, 1988: 144; cf. Strang & Baron, 1990). For example, Mintzberg (1983) has noted that employees with general skills may form occupational associations, a process he terms “pseudoprofessionalism,” to protect their jobs and advance their autonomy. Even Williamson (1981: 567) who ties asset specificity and internal labor markets to efficiency and not market power, has noted that “where human asset specificity is slight the presumption is that these outcomes [internal labor markets] are driven more by power than by efficiency considerations. Therefore, even in those occasions where firm-specific skills do not exist internal labor markets may still flourish. That is, market power actualized through unions and professional associations may still enable the employees to redefine their jobs (Benson, 1977; Scott, 1987; Strang & Baron, 1990) and foster some labor process control. That said, jobs found

in external labor markets commonly suffer the lack of both firm-specific skills and external associations (i.e., unions or professional associations) that provide for the creation of employee controlled market power.

Predicated upon the preceding arguments the following related hypotheses were developed:

H2.1a Non-professional jobs without firm-specific skills are more likely to be located in external labor markets than non-professional jobs with firm-specific skills.

H2.1b Non-professional jobs, regardless of skill type, are more likely to be located in external labor markets than professional jobs.

Traditionally Disadvantaged Employees

Considerable research has been done examining race- and/or gender-based labor force inequity (eg., Card & Lemieux, 1994; Cook & Waters, 1998; Ehlers & Main, 1998; Evetts, 1996; Hellerstein & Neumark, 1998; Henwood, 1998; Jacobs, 1989a, 1989b; Mccrate & Leete, 1994; Reskin, 1994; Sexton & Olsen, 1994; Straits, 1998; Tomaskovic-Devey, 1993; cf. Carlson, 1987, 1992). Some evidence does exist that women are making progress in career advancement. For example, in 1970 only 33.9% of all managers were women; by 1980, this number had grown to 40.6% (Cetron, Lucken, McFadden, & Weir, 1987). Cetron and associates have also suggested that women no longer are simply moving between low-level positions. On the other hand, other findings indicate that women are still disadvantaged in their career progress (Morrison & Von Glinow, 1990). Women with equal or better educational attainment on average earn less than men (U.S. Bureau of the Census, 1987; Dipboye, 1987; Olson & Frieze, 1987; Roman, 1990) and

there are proportionally fewer women in top-level management positions than at lower levels (Morrison, White, Van Velsor & the Center for Creative Leadership, 1987; “The best companies for women,” 1990). Why do women earn less than men, why do move up the corporate ladder more slowly than men and why are they more likely to be in external labor markets than men? These are questions that are uneasily answered since studies have ruled out such factors as lower skills, abilities, and motivations. These studies do support such theoretical explanations as human capital, family power, self-selection, industry differences, and discrimination (Fagenson, 1990; Markham, 1987; Morrison & Von Glinow, 1990, Stroh, Brett, & Reilly, 1992). Although Stroh and associates have found that women may “do all the right things” (i.e., get a comparable education as men, have similar levels of family power, work in similar industries, remain in the workforce, not remove their names from transfer considerations) it may not be enough. That is, even after doing the “right stuff” women may still experience negative disparate treatment in their careers (Stroh, Brett, & Reily, 1992).

Stromberg and Harkess (1978) have contended that women advance less slowly than men in their careers due to differences in human capital (i.e., educational attainment and job related experience). The central idea underlying human capital theory as an explanation for the difference between male and female career progression is that women are inferior goods and have made poor investments in their human capital. According to human capital theory, employees make rational choices about investments in their human capital (Becker, 1975), including choices of education, the continuation of a presence in the labor force, and employer changes. Human capital theory holds that more highly educated employees have more options because they have more human capital assets. If women have less education than men, their career advancement should not be as

extensive as men and therefore they will be more likely to remain in lower level jobs frequently found in external labor markets. Employees who leave the workforce temporarily may decrease their human capital if they do not keep their skills current as technology changes. Some theorists hold that women do not remain in the workforce as regularly as men and thereby suffer human capital declines (Blau & Ferber, 1987; Morrison et al., 1987). Furthermore, changing employers might be interpreted as being a way to develop human capital by obtaining breadth of experience. Still, in the United States where firm internal labor markets are prevalent (Kalleberg, 1988) changing firms frequently reduces human capital due to not having the opportunity to develop skills that are especially valued by a particular firm. Blau and Ferber (1987) have suggested that career opportunities grow when employees are willing to invest in firm-specific education and training. They further suggest that employees who are more willing to invest in firm-specific training are more likely to be more committed to their firm. If women change firms more frequently than men, their firm-specific human capital may be lower and therefore they may be more likely to remain in external labor markets.

Family power theory suggests that the family member having the largest input to the family's financial resources has the greatest power within the family (Blood & Wolf, 1960; Heer, 1963; Rodman, 1972). Markham (1987) has contended that since men typically have larger incomes than women, they usually have greater family power. Therefore, wives may be expected to make sacrifices in their careers and take lesser positions than what they otherwise might do in order to promote their husbands careers. By doing so, wives may face decreased career opportunities and may be more likely to take positions in external labor markets if other opportunities are not available. Such career sacrifices may produce the downward spiral of

careers for those women. That is, with each sacrifice made for the husband's career, the wife may be more deeply affixed to jobs in external labor markets and decreased wages. This, in turn, makes the wife even less able to counter future moves which once again require career sacrifices by her. This downward spiral results in the wife having little hope of gaining an equal share of family power.

The female self-selecting theory holds that women, of their own accord, choose a slower career path, which may lead to more time in external labor markets, lower wages, fewer benefits, and less opportunities for career advancement (Markham, 1987; Morrison & Von Glinow, 1990; Schwartz, 1989). The female self-selection theory is based upon the desire by some women to abide with traditional familial gender roles. This theory contends that even if a woman has high family power arising from resources besides wages and salaries she will still self-select and may be more likely to enter into external labor market arrangements that offer more time for family responsibilities. Coser (1975) held that when a woman thinks about moving in order to advance her career, she is placing career advancement over family concerns, a situation that violates the traditional model that she has been socialized to think is proper. Markham (1987) also noted that role expectations affect career move decisions.

Original gains by women into managerial-level positions were frequently in lower paying and service industries (Cetron et al., 1987). Stromberg and Harkess (1978) posited that women's self-selection into certain industries account for the differences in men's and women's careers. They suggested that institutional gender discrimination may not be a viable cause of differential career results between men and women and if women would simply select those industries that men tend to frequent then differences would be eradicated. Such differential treatment may also be faced by minority employees.

The dual economy approach posits that the economy is divided into two sectors. The core sector is comprised of firms having oligopolistic markets, large economic scale (including high levels of profitability), conglomeration, and long-run planning capabilities, while the periphery sector has the opposite characteristics (Hodson & Kaufman, 1982). Dualists argue that minorities are initially forced into the periphery because of geographic proximity of ghetto minorities to periphery employers, the use of minority employees as a cheap form of labor, the ability of core firms to absorb the costs of discrimination, and the use of discrimination as a means of creating and maintaining disunity among employees (Hodson & Kaufman, 1982). The initial sorting is maintained by the ability of periphery employment to force employees into discontinuous work patterns which increases their inability to obtain jobs in the core sector. In addition, an exploitation argument evinces that wage discrimination against minorities should be stronger in the core sector. That is, core sector employers may devalue the experiences and education of minority applicants in order to minimize the risk of hiring potentially unproductive employees. The profits of core sector firms may therewith be built in part upon their discriminatory practices. Thus, the dual economy approach suggests that employee discrimination based upon both the differentiation of labor markets and earnings should be more likely to occur by core sector firms than by periphery firms. That said, periphery firms by their very nature may not be able to provide “good” jobs with substantial earnings.

Neoclassical labor theorists (e.g., Arrow, 1972, 1973; Becker, 1971; Cain, 1976) argue that labor market discrimination is due to the preference of some firms, employees, and customers for whites. This theory suggests that such preferences are operationalized by either premium occupational outcomes being distributed to whites or by the total exclusion of minorities. The

utilization of rational choices would not make such discrimination viable in the long-run. Only customer preferences for discrimination can produce lasting discrimination, even then customers would need to know the racial composition of the firm's labor force. Given these conclusions and the longstanding pattern of occupational racial discrimination, Becker (1971) has suggested that discrimination must therefore arise from market imperfections related to imperfect competition. Since competition supposedly eliminates discrimination, Becker has argued that there are two primary barriers of competition that may enable the maintenance of discrimination: monopoly (oligopoly) power and unions. Discriminators who have monopoly power do not bear competitive pressures that would prevent discrimination (Becker, 1971; Cain, 1976). Congruently, since unions pose barriers to competition, Becker has suggested that unions may offer white employees a pathway to discrimination. Furthermore, if a firm is earning excess profits then some of those profits can be used to bear the costs of discrimination (Comanor, 1973). Although neoclassical economics suggests that in the long-run a firm's excess profits will be zero, which, of course, does not discount the possibility of short- and medium-run discrimination.

Empirical evidence testing the effect of monopoly power on discrimination (e.g., Becker, 1971; Shepherd, 1970; Comanor, 1973; Kaufman & Daymont, 1981) and of the racial composition of core and periphery sectors (e.g., Beck, et al., 1980; Bibb & Form, 1977; Zucker & Rosenstein, 1981; Hodson, 1983) has been mixed. Marshall (1974) has also questioned the rationale of the type of discrimination that the neoclassical theory proposes. That is, while the neoclassical theory argues that racial discrimination occurs due to a desire for physical distance, Marshall suggests that the discriminatory practice is more likely to be based upon status and

authority. Marshall (1974) holds that while racial groups may be in the same organization, if the firm discriminates, minorities will have jobs with less status and power, jobs common to those in external labor markets. Whites, in contrast, will have jobs with more status and power, which is common to internal labor markets. Similarly, the form of discrimination proscribed by the dual economy theory can be criticized. It may be more realistic to hold that racial preferences would be carried out on the basis of occupational status rather than actual physical distance (cf. Cotton, 1986). Therefore, both core and periphery firms may employ minorities, but segregate them on the basis of the jobs they hold and the labor markets they reside in. Still, core firms have the greater potential for job segregation since they have more resources and tend to be more formally stratified. That is, while periphery firms tend to have a larger proportion of their jobs in external labor markets, core firms use both external and internal labor markets more frequently. There are also differences in regulatory pressures. Anti-discrimination counteractions by government agencies and citizen groups have tended to focus more upon large and visible firms, such as monopolies, than on small, competitive firms (Marshall, 1974). Oligopolistic firms may be able to more readily afford the recruitment and training costs of minorities in order to correct past discriminatory practices. Minorities may also be able to establish themselves in larger, unionized firms due to their historical tendency to be used as strike breakers (Marshall, 1974; Spero & Harris, 1968). As a whole, it may be that firms with higher levels of monopoly power would be more likely to discriminate. In addition, organizational theory suggests that firms of larger size will tend to use more bureaucratic structures, thus more social stratification opportunities exist for larger firms.

Occupational racial segregation has commonly been ignored by both neoclassical and dual economy theorists, but it was the focus of Marshall's (1974) social distance paradigm. Two segregating barriers have been noted: the establishment of protective barriers to competition (e.g., craft-based unions) and the practice of racial casting of jobs (e.g., Franklin & Resnick, 1973; Kluegel, 1978; Snyder & Hudis, 1976; Taueber, et al., 1966). Racial casting involves the normative association by employers, employees, or customers that certain jobs are more appropriately filled by certain racial groups. Research, as noted previously, holds that jobs typically cast as being minority jobs include those that require menial task performance or heavy physical exertion, and that have low status, low earnings, and poor working conditions (i.e., those commonly found in external labor markets). On the other hand, those typically cast as being majority jobs include those that involve the use of formal authority over non-minority employees or non-minority customers, or the use of informal power through technical expertise (i.e., those commonly found in internal labor markets). Jobs requiring low skill levels and are routine are commonly cast as minority jobs. On the other hand, jobs requiring high skill levels, and thereby having an implicit degree of power, are commonly cast as majority jobs. Furthermore, the workplace interactions (manager-subordinate) associated with the job also establish the cast that is given to it. It has also been noted that occupational race segregation furthers the "divide and conquer" strategy that may be practiced by some employers (Bonacich, 1976; Reich, 1971; Szymanski, 1976).

Little research has considered the effects firm profitability may have upon racial discrimination, some work has shown a negative association between minority employment and

profitability (Comanor, 1973; Cotton, 1986; Kaufman & Daymont, 1981). This finding is congruent with the basic tenants of neoclassical theory in that it holds that discrimination is only possible by firms with excess profits (Becker, 1971).

The ease of entrance into a labor market may also determine the degree of race based segregation. Social identity theory (Tajfel & Turner, 1986) posits that ingroup security may lead to higher levels of unfavorable stereotyping against outgroup members (cf. Fiske, Morling, & Stevens, 1996; Stephan & Stephan, 1984; Wilder & Shapiro, 1989a, 1989b). For example, when the demand for labor is less than the supply, minorities may face more discrimination because they may be seen as being a threat to white employees (Bonacich, 1972; Cotton, 1986; Lenski, 1966; Taeuber, et al., 1966). On the other hand, when the demand for labor is more than the supply, minorities may face less discrimination because they are seen as being less of a threat and because employers will be more likely to hire all qualified employees. The public sector has also been an area in which it has traditionally been relatively easy to gain employment by minorities (Cotton, 1986; Kaufman & Daymont, 1981; Krislov, 1967; Shepherd, 1970; Smith & Welch, 1977).

Based upon the preceding discourse the following related hypotheses were developed:

H3.1a Women are more likely to have a job in an external labor market than are men.

H3.1b Minority employees are more likely to have a job in an external labor market than are white males.

Technology and Industrial Structure

In this section it is proposed that the possibility of external labor markets forming is greater when monitoring difficulties do not exist and the firm is in the peripheral sector. That is,

the use of external labor markets should be more likely where employees lack control over labor processes and the firm does not have sufficient oligopolistic power to form internal labor markets. Both of these forces (i.e., process control, firm monopoly power) provide some protection against market competition of their own accord and create a greater likelihood of internal career advancement. As previously noted, where competing coalitions coexist (e.g., management and labor), the actions of each will center upon securing and advancing their own power base, usually at the expense of the rival coalition (e.g., Benson, 1977; Mintzberg, 1983; Pfeffer, 1981, 1989; Scott, 1987). However, when neither side has a relatively large amount of power or profit more costly internal labor market systems may be feasible.

As regarding employee control over labor processes, employees having limited levels of interdependence or choice will have fewer opportunities to establish market operations to protect their control. At the same time, firms in facing competitive pressures may not have sufficient resources to foster internal labor markets and short-term pressures may be so overwhelming that longer-term labor structures may not be attainable. Possible confluences between derivations of labor process control and market power will be considered next. This portion draws copiously from the works of Althauser and Kalleberg (1981), Boswell (1988), Edwards (1979), and Williamson (1981).

While the singular lack of interdependence has the possibility of reducing transaction costs to the degree where individual and small group negotiations are not necessary, when coupled with the propensity of high employee turnover as found in competitive firms, leverage is even further reduced. Leverage for seniority rights may be bargained for, but with high rates of employee

turnover such rights may have minimal impact. Where asset specificity is absent and thus fails to serve as a source of market power, the use of external labor markets may be increased.

The preceding arguments lead to the following hypotheses:

H4. 1a Jobs that have low levels of task interdependence and are located in environments with greater variability are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or greater environmental variability.

H4. 2a Jobs that have low levels of jobholder autonomy and are located in environments having greater variability are more likely to be located in external labor markets than jobs characterized by only low levels of jobholder autonomy or greater environmental variability.

Power and Industrial Structure

In this section it is proposed that the possibility of external labor markets forming is greater when small numbers do not exist and the firm is not in the peripheral industrial sector. That is, the use of external labor markets should be more likely where employees lack the power to enhance control by restricting supply and when the firm may need to lower labor costs to meet competitive pressures. Both of these forces (i.e., employee market power and firm monopoly power) provide some protection against market competition of their own accord and create a greater likelihood of internal career advancement. Still, control over the labor market power and oligopolistic structures are to some degree interdependent in that the actuality of one creates conditions for the formation of the other. As noted, if competing coalitions coexist (e.g.,

management and labor), the actions of each will focus upon developing and maintaining their own power base, usually at the expense of the rival coalition (e.g., Benson, 1977; Mintzberg, 1983; Pfeffer, 1981, 1989; Scott, 1987).

The lack of power in the external market limits the possibility for the extension of labor process control through such devices as increased autonomy and seniority rights. Even if such devices could be established, given the smaller size and relatively limited profits of peripheral firms the advantages gained from those devices may be problematic.

Unions or professional associations would foster employee leverage and working in concert raise negotiations to the firm- or industry-level, but not all jobs are commonly represented by unions or professional associations. Arguments have been made that bargaining at the firm or industry increases the stability of the employee coalitions and allows for seniority rights (Boswell, 1988; Edwards, 1979). However, firms in competitive industries frequently do not have high enough profitability to make such rights of valuable. That is, seniority is only valued when the job is desired by the employee in the first place and promotion ladders may not be of great consequence if the size of the firm is so small that there are no jobs to be promoted into. In the absence of the firm's facing asset specificity, external labor markets may tend to be more likely to form.

Firms in peripheral industries have higher turnover rates than oligopolistic firms. Further, without the unions or professional associations, labor supply will be less restricted and, therefore, employee negotiating power will be reduced and there may be an even freer flow of employees. When asset specificity is absent transaction costs are lower and seniority rights may be limited (Boswell, 1988), and turnover may be higher.

The above-mentioned arguments lead to the following hypotheses:

H5.1a Jobs that have low levels of union representation and are located in environments having greater variability are more likely to be located in external labor markets than jobs characterized by only low levels of union representation or greater environmental variability.

H5.1b Jobs that have low levels of professional representation and are located in the environments having greater variability are more likely to be located in external labor markets than jobs characterized by only low levels of professional representation or greater environmental variability.

H5.1c Jobs that have low levels of firm-specific skills and are located in environments having greater variability are more likely to be located in external labor markets than jobs characterized by only low levels of firm-specific skills or greater environmental variability.

Technology and Power

In this section it is proposed that the possibility of external labor markets forming is greater when neither monitoring difficulties nor small numbers exist than when either one or both exist. That is, the use of external labor markets should be more likely where employees lack control over labor processes and the power to enhance control by restricting supply. Both of these forces (i.e., process control, market power) provide some protection against market competition of their own accord and create a greater likelihood of internal career advancement. Still, control over the labor process and labor market power are to some degree interdependent in that the actuality of one creates conditions for the formation of the other. As previously noted,

where competing coalitions coexist (e.g., management and labor), the actions of each will center upon securing and advancing their own power base, usually at the expense of the rival coalition (e.g., Benson, 1977; Mintzberg, 1983; Pfeffer, 1981, 1989; Scott, 1987).

As regarding employee control over labor processes, employees having limited levels of interdependence or choice will have fewer opportunities to establish market operations to protect their control. In comparison, the lack of power in the external market limits the possibility for the extension of labor process control through such media as increased autonomy and seniority rights. Possible confluences between derivations of labor process control and market power will be considered next. This portion draws copiously from the works of Althauser and Kalleberg (1981), Boswell (1988), Edwards (1979), and Williamson (1981).

While the singular lack of interdependence has the possibility of reducing transaction costs to the degree where individual and small group negotiations are not necessary, when coupled with the free flow of supply, leverage is even further reduced. Unions or professional associations would introduce this leverage and jointly raise negotiations to the firm- or industry-level, but not all jobs are commonly represented by unions or professional associations. Even so, Boswell (1988) and Edwards (1979) argue that bargaining at the level of the firm or industry increases the stability of employee coalitions and allows for the promotion of seniority rights within an industry. Therefore, employees who lack representation in employee associations are less likely to be included in seniority based job ladders. Where asset specificity is absent and thus fails to serve as a source of market power, results should be comparable as those cases where employee collectives are not present except that turnover costs should be lower.

High levels of jobholder autonomy also have the capacity for raising transaction costs and this commonly leads to the primary control of labor processes being shifted into the hands of employees, thus, in contrast, if jobholder autonomy is lessened then transaction costs will be lowered and control of labor processes will tend to remain under management's control. Again, without the presence of unions or professional associations labor supply will be less restricted and, therefore, employee negotiating power will be reduced. The primary difference between situations in which unions or professional associations are present and either interdependence or jobholder autonomy is high is that the issue under negotiation should revolve around the preservation of wages and seniority for the former and around skills and discretion for the latter (Althauser & Kalleberg, 1981; Edwards, 1979), all of which is lacking for jobs commonly held by those in external labor markets. The lack of asset specificity also lowers transaction costs for both sides and consequentially may lead to limited seniority rights (Boswell, 1988).

These arguments lead to the following hypotheses:

H6.1a Jobs with low levels of task interdependence and union representation are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or union representation.

H6.1b Jobs with low levels of task interdependence and professional representation are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or professional representation.

H6.1c Jobs with low levels of task interdependence and firm-specific skills are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or firm-specific skills.

H6. 2a Jobs with low levels of jobholder autonomy and union representation are more likely to be located in external labor markets than jobs characterized by only low levels of jobholder autonomy or union representation.

H6. 2b Jobs with low levels of jobholder autonomy and professional representation are more likely to be located in external labor markets than jobs characterized by only low levels of jobholder autonomy or professional representation.

H6. 2c Jobs with low levels of jobholder autonomy and firm-specific skills are more likely to be located in external labor markets than job characterized by only low levels of jobholder autonomy or firm-specific skills.

Technology and Traditionally Disadvantaged Employees

In this section it is proposed that the possibility of external labor markets forming is greater when the absence of monitoring difficulties are combined with female and/or minority employees than when either monitoring or white male employees exist. That is, the use of external labor markets should be more likely where female and/or minority employees lack control over labor processes. Process controls offer some protection against market competition and create a greater likelihood of internal career advancement, and traditionally advantaged employees may have the socioeconomic standing to reinforce favorable job characteristics. Labor processes and favorable demographic positioning may be interrelated to some degree as one may reinforce the maintenance of the other. As previously noted, where competing coalitions coexist (e.g., management and labor; advantaged employees and disadvantaged employees), the actions of each will center upon securing and advancing their own power base, usually at the expense of the rival

coalition (e.g., Benson, 1977; Mintzberg, 1983; Pfeffer, 1981, 1989; Scott, 1987). Traditionally advantaged employees may also be in a strong position to maintain their position since, in large part, they influence the setting of the norms that enable them to remain advantaged.

Employees who have limited levels of interdependence or choice will have fewer opportunities to establish market operations to protect their control. When jobs lacking interdependence or choice are held by individuals whose demographic groups have experienced a longstanding pattern of job inequity, whether due to structural discrimination or the lack of human capital, the likelihood that such jobs will be high-paying, offer plentiful opportunity for career advancement and have good working conditions is highly problematic.

While the lack of interdependence alone may reduce transaction costs sufficiently so that individual and small group negotiations are not necessary, when the jobholder has faced and is facing a pattern of job outcome and process inequity simply due to societal perceptions, leverage is even further reduced. White male employees may be able to introduce this leverage through social network systems, but women and minority employees may have different networks.

High levels of jobholder autonomy may raise transaction costs sufficiently to shift power to the employee's side. Therefore, if jobholder autonomy decreases then transaction costs will also decrease and management will tend to remain in control.

The following hypotheses are developed from the above arguments:

H7.1a Jobs with low levels of task interdependence that are held by a woman are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or a female jobholder.

H7.1b Jobs with low levels of task interdependence that are held by a minority employee are more likely to be located in external labor markets than jobs characterized by only low levels of task interdependence or a minority jobholder

H7.2a Jobs with low levels of jobholder autonomy that are held by a woman are more likely to be located in external labor markets than jobs characterized by only low levels of jobholder autonomy or a female jobholder.

H7.2b Jobs with low levels of jobholder autonomy that are held by a minority employee are more likely to be located in external labor markets than jobs characterized by only low levels of jobholder autonomy or a minority jobholder.

Power and Traditionally Disadvantaged Employees

In this section it is posited that the likelihood of external labor markets forming is greater when jobs are associated with both small numbers and traditionally disadvantaged employees than when jobs are associated with either one but not both. That is, external labor markets should be more likely where employees lack the power to enhance control by restricting supply and those employees are women or minorities. Both of these characteristics (i.e., market power and socioeconomically employee advantage) provide some protection against market competition of on their own and produce a greater likelihood of internal career advancement. Still, control over labor market power and favored employee differential treatment are to a degree interdependent in that one can create conditions for the formation of the other. As previously noted, where competing coalitions coexist (e.g., management and labor; advantaged employees and disadvantaged employees), each group will attempt to foster and develop their own power base,

usually at the expense of the rival group (e.g., Benson, 1977; Mintzberg, 1983; Pfeffer, 1981, 1989; Scott, 1987).

When the free flow of labor supply is coupled with minority and/or female employees the transaction costs may be reduced so much that individual and small group negotiations are not necessary and employee leverage may be significantly reduced. Unions or professional associations would introduce this leverage and working together raise negotiations to the firm- or industry-level, but not all jobs are commonly represented by unions or professional associations. Even so, Boswell (1988) and Edwards (1979) argue that bargaining at the level of the firm or industry increases the stability of employee coalitions and allows for the promotion of seniority rights within an industry. Therefore, employees who lack representation in employee associations are less likely to be included in seniority based job ladders. When those employees who lack union or professional representation are minorities or women, (i.e., groups which have encountered long-term job outcome and process inequity) who have traditionally had little market power, then even more differential treatment may occur as compared to employees who are both advantaged and represented by a union or professional association.

Again, without the presence of unions or professional associations, labor supply will be less restricted and, therefore, employee negotiating power will be reduced. The primary difference between situations in which unions or professional associations exist and the employee is a white male is that negotiations between management and employees will likely center upon wage preservation and seniority for the former case and the upon skills and employee discretion for the latter (Althauser & Kalleberg, 1981; Edwards, 1979), jobs in external labor markets tend

to lack all of these features. If asset specificity is absent then transaction costs will similarly be lowered for both coalition and seniority rights may be limited (Boswell, 1988).

The previous contentions lead to the following hypotheses:

H8. 1a Jobs with low levels of union representation that are held by women are more likely to be located in external labor markets than jobs characterized by only low levels of union representation or having a female jobholder.

H8. 1b Jobs with low levels of professional representation that are held by women are more likely to be located in external labor markets than jobs characterized by only low levels of professional representation or having a female jobholder.

H8. 1c Jobs with low levels of firm-specific skills that are held by women are more likely to be located in external labor markets than jobs characterized by only low levels of firm-specific skills or having a female jobholder.

H8. 2a Jobs with low levels of union representation that are held by a minority employee are more likely to be located in external labor markets than jobs characterized by only low levels of union representation or having a minority jobholder.

H8. 2b Jobs with low levels of professional representation that are held by a minority employee are more likely to be located in external labor markets than jobs characterized by only low levels of professional representation or having a minority jobholder.

H8. 2c Jobs with low levels of firm-specific skills that are held by a minority employee are more likely to be located in external labor markets than jobs characterized by only low levels of firm-specific skills or having a minority jobholder.

Chapter Summary

This chapter has outlined and discussed the theoretical basis for the study, research objectives, research questions, and specific hypotheses addressed in this study.

CHAPTER 4

RESEARCH METHODOLOGY

This chapter outlines the research methodology used in testing the aforementioned hypotheses, as well as describes the focal subject sample, data collection and measures, and data analyses methods employed.

Sample

The data used in this study were acquired from the Current Population Survey (CPS) in Washington, D.C. To produce the Report on Contingent Labor (CPS, U.S. Dept. of Commerce & Labor, 1995, 1997) the CPS conducted a supplemental survey on contingent labor in addition to its monthly survey. Because this survey specifically inquired about contingent labor, contract labor, and temporary help agencies and provided other demographic and geographical information this database is well suited for testing the hypotheses presented in Chapter 3. In addition to inquiring about contingent labor practices, the CPS also collected data regarding occupational mobility and “dead-end” jobs, part time labor activity, and union membership.

Industry based data used in this study were acquired from the Department of Commerce’s Economic Census Bureau, Washington, D.C. To produce and periodically complete the Current Business Survey, the Census Bureau annually collects industry wide data. The Department also collects economic data every five years to produce the Economic Census. The Current Business

Survey and the Economic Census are both reported upon by various industry sectors (e.g., manufacturing, wholesale and retail trade, services, construction). These data provided information to measure the degree of industry wide variability of earnings and capital outlays.

The National Science Foundation, Washington, D.C. commissioned annual reports on organizational research and development funding on an industry wide basis (Report on Industry Research and Development Activity, 1955-1999). These reports provided additional data regarding industry research activity and variability.

Job content data were obtained from the Department of Labor's Bureau of Employment and Training Office (BET), Washington, D.C. In an effort to update the BET's Dictionary of Occupational Titles (DOT; U.S. Dept. of Labor, 1977). The BET created the internet based Occupational-Network (1999) to report on over 200 different job content variables for each occupation listed by the BET on a economic system wide basis. The BET measures job content variables both on degree of occurrence of a task and the importance of such tasks in relation to the organization. For example, "working with numerical data" is high for both bookkeepers and accountants as regard to degree of occurrence, but accountants have a much higher level of importance of score in "working with numerical data" than bookkeepers. The data were particularly useful in measuring the degree of autonomy and centrality for each occupation.

Available data for all industries and their employees, exclusive of agricultural and governmental industries were utilized to test the hypotheses stated in Chapter 3. Data obtained from each source, exclusive of the Current Population Survey (CPS), were reported by the various agencies as being as exhaustive as possible. The data obtained from the CPS contained a sample size of 91,402 individuals who were self-reported as being 15 years of age or older and as

being in the labor market at the time of the survey. The sample represented each industry as classified by the Department of Commerce's Standard Industry Classification System, exclusive of agricultural and governmental industries.

Data related to firm specific skill training were obtained from the Department of Labor Bureau of Labor Statistics (BLS). The BLS in preparing its Report on Employer Provided Training (1995) collected data on training by employers for the employee skill enhancement of their current jobs and training for entrance into the job. The data were particularly useful in determining which employees received training relative to their being in an external labor market.

Data Collection and Measures

Data Collection

The primary method of data collection utilized by the Current Population Survey, the Economic Census Bureau, and the National Science Foundation is inquiry-recording data in which the firm or individual is asked specific questions and provides responses. The Bureau of Employment of Training's primary data collection method is observation-interview, with supporting data coming from job descriptions, interviews with administrators, in target organizations. Job analysts and census and survey takers are trained in data collection by their respective agencies and efforts are taken to be either as exhaustive as possible or to minimize sample selection bias. The information gathered from observations and interviews is recorded and distributed via electronic means. The economic census and surveys and research and development findings are also reported via hard copy.

Dependent Variable

External labor market (Table 4.1) status was based on six binary variables created for each individual. This information was provided by the Current Population Survey. That is, if the job

Table 4.1

Variables in the Study

Dependent Variable

External labor market status

Independent Variables

Environmental variability

Task interdependence

Gender

Jobholder autonomy

Race

Firm-specific skills

Regional location

Union membership

Metropolitan status

Professional association

Environmental variability

met any one, or more, of the six criteria, then the job was classified as being in an external labor market. The first variable was coded "1" if the individual was employed by a temporary help agency firm and "0" if not. The second variable was coded "1" if the employee reported it to have an expected life of one year or less and "0" if the job was expected to be on-going, regardless of whether the employee expected to be the holder of the job or not. The third variable was coded "1" if the employee was a contract laborer and "0" if not. The fourth variable was

coded "1" if the employee was a day laborer (i.e., worked at the job from day-to-day as some substitute teachers do) and "0" if not. The fifth variable was coded "1" if the employee was a part-time employee (i.e., the employee regularly works less than 35 hours per week, Department of Labor, 1977). The sixth variable was coded "1" if the employee's occupation had relatively limited promotional opportunity with the organization (i.e., a "dead-end" job) and "0" if the employee's occupation did not have relatively limited promotional opportunity. Thus, an employee's job may be full time, on-going and be hired by the firm itself and still be in an external labor market as evidenced by the tendency for such occupations to have limited promotional opportunities. The classification of an occupation's promotional opportunity was cross checked by data provided by the Current Population Survey in a completely unique study on Occupational Tenure and Promotion (1996, 1998) and the Bureau of Employment and Training's O-Net database.

Promotional opportunity of the occupation was further subdivided into four separate binary variables. The first variable was coded "1" if the occupation tended to be in a promotion ladder and "0" if it was not. For occupations tending to be in promotion ladders, the second variable was coded "1" if it was at the bottom of the ladder and "0" if it was not. For these same occupations, the third variable was coded "1" if it could not be entered from outside the organization and "0" if it could. Finally, occupations tending to be in promotion ladders were coded "1" if additional promotions tended to be available higher up the ladder and "0" if additional promotions did not tend to be available. For occupations which did not tend to be in a promotion ladder, the remaining three variables were coded as missing.

As noted in Chapter 1, Althauser and Kalleberg (1981) define internal labor markets as “any cluster of jobs ... that have three basic structural features: (a) a job ladder, with (b) entry only at the bottom, and (c) movement up this ladder, which is associated with a progressive development of knowledge or skill” (p. 130). In their study of internal labor markets Baron, Davis-Blake, and Bielby (1986) examine each component of this definition separately. However, because Althauser and Kalleberg’s (1981) definition suggests that these elements operate in concert, the four variables were summed to create a single measure of the job’s lack of inclusion in an internal labor market. Furthermore, Tzui (1988) has noted that part-time, contingent, and contract jobs are frequently absent of such promotional opportunity and skill development. Therefore, by considering both promotional opportunities over time as well as currently existent occupational structures, a more complete examination of the focal phenomena is derived.

Independent Variables

Gender data were collected directly from the Current Population Survey (CPS) and encompassed both males and females. Racial and ethnicity data were also obtained directly from the CPS. The CPS divides racial and ethnic data is divided into the following categories: White, non-Hispanics, Blacks, Asian-Americans, Native Americans, and Hispanics. Geographical data (i.e., region and metropolitan status) were also obtained directly from the CPS. Regional data are broken down into four categories (East, Midwest, South, and West) by the Current Population Survey. The CPS divides metropolitan status into three categories: central city, suburbs, and rural areas.

Environmental variability data were comprised of the industry's average variability for gross sales, net income, capital outlays, and research and development funding (Amey, 1986; Garside, 1999; Grant, 1995; Thompson & Strickland, 1996) over the ten year period between 1997 and 1988 for all industries except those in agriculture and governmental service. Gross sales, net income and capital outlay data were obtained from the Department of Commerce and research and development funding data were obtained from the National Science Foundation.

Task interdependence (i.e., job centrality) was measured using O-Net scores taken for each job. Task interdependence scores represent the highest degree of interpersonal interaction required by a job and the frequency of such occurrence. O-Net measures were scored directly to range from 0 (**lowest task interdependence**) to 99 (**highest task interdependence**).

These scores range from intensive reciprocal interactions such as mentoring (i.e., "Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual and/or other professional principles.") to simple mediating interactions such as diverting. Jobs classified as mentoring scored 90 or above, and include tasks such as "counseling clients in legal matters," and "advising/assisting individuals in the solution of their socio-economic problems." Tasks of this nature require constant and complex reciprocal interaction with clients and peers. An example of a job with a score of 90 or above on task interdependence is a speech pathologist.

The next most complex level of interpersonal interaction is negotiating (i.e., "Exchanging ideas, information, and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions, or solutions.") which scores between 80 to 89 on task interdependence. Tasks such as "contracting with farmers to raise or purchase fruit and vegetable

crops” also require a jobholder to engage in complex interactions with others. However, the basis of these encounters is usually not as constant and are more routine than those found under mentoring. An example of a job with a score ranging between 80 to 89 on task interdependence is a director of nursing service.

As noted above, decreasing complexity of interpersonal interaction is associated with progressively lower task interdependence scores. A job that scores between 70 to 79 on this scale is an exercise physiologist. Jobs that score between 60 to 69 and 50 to 59 on task interdependence are a shift supervisor and an automated autoclave operator, respectively.

The least complex level of task interdependence are represented by simple mediating interactions such as helping and serving (i.e., “Attending to the needs or requests of people or the expressed or implicit wishes of people.”) and persuading and diverting (i.e., “Influencing others in favor of a product or point of view.”). Helping is scored between 40 to 49 and serving is scored from 30 to 39, while persuading is scored between 20 to 29 and diverting is scored from 10 to 19. Jobs having only minimal interaction or centrality with the work of others are scored 0 to 9. For example, “mixes and serves alcoholic and non-alcoholic drinks to patrons of a bar,” describes a task classified as serving, and “writes scripts for radio and television advertising,” describes a task classified as persuading. Interdependence in these jobs is between a jobholder and clients or machines rather than between jobs. Jobs that score between 30 to 39 and 40 to 49 include a general duty nurse and an electronics mechanic, respectively. Examples of jobs which score between 10 to 19 and 20 to 29 are a disk jockey and a sales representative, respectively.

The degree of jobholder choice (i.e., job autonomy) which a job allows was measured using O-Net scores which rates a job in terms of required interaction with data. O-Net scores

were directly entered to range from 0 (lowest autonomy) to 99 (highest autonomy). The O-Net describes autonomy as, “making decisions about information, knowledge, and conceptions related to data, people, or things resulting from observation, investigation, interpretation, visualization, and mental creation. Data are intangible and include numbers, words, symbols, ideas, concepts, and oral verbalization.” At one extreme are complex independent actions such as synthesizing (i.e., “Integrating analysis of data to discover facts and/or develop knowledge concepts or interpretations.”) Jobs classified as synthesizing are scored between 90 to 99 and include tasks such as “conceiving and developing ideas for application of mathematics to the fields of science and engineering,” and “formulating editorial policies of a newspaper and originating plans for special features or projects.” Such tasks require a jobholder to make independent decisions in what are very often unstructured and variable situations. The data involved are frequently of an abstract nature (e.g., mathematical concepts, philosophical/ethical issues). An example of a job which scores over 90 on job autonomy is an aeronautical research engineer.

The next most complex level of data interaction is coordinating (i.e., “Determining time, place, and sequence of operations or action to be taken on the basis of analysis of data; executing determinations and/or reporting on events.”) The tasks involved in these types of jobs also require independent decision-making, and score between 80 to 89 on jobholder autonomy. However, the nature of the data involved is of a more concrete variety. Tasks such as “authorizing, regulating, and controlling commercial airline flights, according to Government and company regulations” are included. In these instances the nature of raw materials (e.g., aerodynamics, flight plans) may be well understood and, thus, guidelines for decision making can be established ahead of time. However, raw materials may also have a large degree of variability (e.g., pilot error, quickly

changing weather conditions, mechanical failure) and, thus, jobs still require a great deal of independent decision making on the part of jobholders. An example of a job which scores between 80 to 89 on jobholder autonomy is an electronics supervisor.

As noted above, decreasing interaction with data is associated with progressively lower jobholder autonomy scores. For example, on this scale, laboratory testers, sheet metal numerical control operators, and accounts-payable clerks scored 68, 51 and 35, respectively.

As data interaction complexity decreases each classification reflects a more prescribed structure, greater situational stability, and, therefore, opportunities to exercise jobholder autonomy decline. At the lowest level of the data interaction are simple prescribed actions like copying (i.e., "Transcribing, entering, or posting data.") and comparing (i.e., "Judging the readily observable functional, structural, or compositional characteristics of data, people, or things."). Copying is scored between 20 to 29 and comparing is scored between 10 to 19. An example of a task classified as copying is "transcribing addresses from a mailing list to envelopes, cards, advertising literature, packages and similar items," while "grades dressed poultry according to size and quality" describes a comparing task. Information encountered in these tasks is stable and allows for extensive structuring of jobs (e.g., "If X then do Y, else do Z. "). In these cases employee jobholder autonomy is minimized. Examples of such jobs are a telephone operator and a mail clerk. Jobs which are totally devoid of any jobholder autonomy are scored 0.

It has been argued (Doeringer & Piore, 1971; Williamson, 1975) that internal labor markets develop as a direct result of firms' attempts to recoup training costs and reduce the threat of opportunistic behavior on the part of workers with firm-specific skills. However, certain tasks require less training and therefore the employer has less investment at stake with the jobholders of

such tasks. Thus, external labor markets may be devised in order to forego larger internal labor market costs. Following Baron, Davis-Blake, and Bielby (1986), firm-specific skills were measured as the sum of training and experience time (in months) required for entry into a job and the time devoted for skill enhancement in the current job. Specifically, firm-specific skills were determined by adding orientation time, employer provided training time, and time required in other positions in a firm for each job. These data were taken from the Bureau of Labor Statistics.

Information about which jobs were unionized was gathered from the Current Population Survey. A binary variable was created with "1" representing a union member and "0" representing a nonunion member. In addition, data about the coverage, irrespective of union membership, were also obtained. A binary system was also used for union coverage of the employee's job with "1" representing union coverage and "0" representing the absence of union coverage.

O-Net job codes were used to determine each job's professional representation. Jobs professionally represented were coded "1" and all other jobs were coded "0."

Chapter Summary

This chapter outlined the research methodology employed in the dissertation research including subject sample, data collection and measures, and data analysis methods.

CHAPTER 5

DATA ANALYSIS AND RESULTS

This chapter presents the results of the logistic regression analyses and tests of means discussed in Chapter 4. It is organized into three sections: (1) analysis and results of the relationship among job technology variables (i.e., jobholder autonomy and task interdependence), power variables, environmental variability, demographic variables, geographic variables and their interactions; (2) analysis and results of the relationship between demographic, geographic, and industry structure variables and external labor markets; and (3) analysis and results of the relationship between power variables (i.e., firm-specific skills, union representation, and professional credentials) and external labor markets.

Descriptive statistics and zero-order correlation coefficients for all study variables are presented in Tables 5.1A and 5.1B. All coefficients $> \pm .01$ are significant at $p < .05$. External labor market standing is significantly and positively related to union membership ($r = .06$, 1 = union member, 0 = nonunion member), female gender ($r = .06$, 1 = female, 0 = male), minority status ($r = .06$, 1 = minority, 0 = non minority), and Southern residence ($r = .01$, 1 = Southern resident, 0 = non Southern resident) and negatively related to firm specific skills ($r = -.46$), job interdependence ($r = -.54$), jobholder autonomy ($r = -.61$), professional status ($r = -.45$), environmental variability ($r = -.07$), and central city status ($r = -.06$). That is, members of

Table 5.1A
Correlation Matrix for all Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. External labor											
market	--	-.46	-.54	-.61	.06	-.45	-.07	.06	.06	.01	-.06
2. Firm-specific											
skills		--	.68	.74	-.11	.83	.10	.12	-.15	-.01	.11
3. Task											
interdependence			--	.87	-.02	.69	.04	.01	-.11	-.01	.07
4. Jobholder											
autonomy				--	-.03	.74	.05	-.01	-.13	-.01	.09
5. Union membership					--	-.14	-.02	-.15	-.00	.01	-.02
6. Professional											
membership						--	.11	.04	-.13	-.01	.09
7. Environmental											
variability							--	-.07	-.05	-.01	.05
8. Gender								--	.01	.00	-.01
9. Race									--	.09	.11
10. Region										--	-.03
11. Metro status											

All correlations > +/- .01 are significant at $p < .05$, two tailed test.

Table 5.1B
Descriptive Statistics for all Study Variables

	M	SD
External labor market standing	.80	.40
Firm specific skills	12.46	4.64
Task interdependence	38.39	16.88
Jobholder autonomy	38.08	15.77
Union representation	.04	.19
Professional representation	.42	.49
Environmental variability	.89	.92
Gender	.49	.50
Race	.22	.41
Region	.30	.46
Metropolitan status	.77	.42

unions, women and minorities are more likely to be in an external labor market than their nonunionized, male, majority member counterparts. Firm specific skills held by the jobholder are positively related to job interdependence ($r = .68$), jobholder autonomy ($r = .74$), professional status ($r = .83$), environmental variability ($r = .10$), female gender ($r = .12$), and central city status ($r = .11$) and negatively related to union membership ($r = -.11$), minority status ($r = -.15$), and Southern residence ($r = -.01$). Job interdependence is positively related to jobholder

autonomy ($r = .87$), professional status ($r = .69$), environmental variability ($r = .04$), female gender ($r = .01$), and central city status ($r = .07$) and negatively related to union membership ($r = -.02$) and minority status ($r = -.11$). Furthermore, jobholder autonomy is positively related to professional status ($r = .74$) and environmental variability ($r = .05$), and central city status ($r = .09$) and negatively related to female gender ($r = -.01$), union membership ($r = -.03$), minority status ($r = -.13$), and Southern residence ($r = -.01$). Thus, contrary to what Thompson's (1967) discussion of these concepts suggests, discretion and interdependence are not always negatively related. That is, an increase in task interdependence does not necessarily mean a simultaneous decrease in jobholder choice. This finding supports Williamson's (1981), Gerwin's (1982), and Boswell's (1988) contention that instability in the relationship between technological (e.g., task interdependence) and structural (e.g. jobholder autonomy) variables requires that they be treated as conceptually distinct.

Eighty percent of all jobs in the sample were in external labor markets. The sample was composed of 51 percent males, 78 percent of those sampled were non minorities, 30 percent of all sampled lived in the South, 77 percent lived in a central city locale. Non professional jobs accounted for 58 percent of respondents' jobs and four percent of those responding indicated they were in a union. On average twelve years of firm-specific training were provided employees, jobs in the sample scored an average of 39 on both task interdependence and jobholder autonomy and .89 on the environmental variability scale.

The study examined both industrial, geographic and demographic characteristics and differing levels of power held by different groups within the firm (Table 5.1C).

Table 5.1C

Summary of Test Utilized and Significance for all Study Hypotheses

H1.1a Relationship of Environmental Variability and ELMs	Regression	< .001
H1.1b Relationship of Metropolitan Status and ELMs	Chi-Square	< .001
H1.1c Relationship of Regional Location and ELMs	Chi-Square	< .001
H2.1a Relationship of Firm-Specific Skills and ELMs	Regression	< .001
H2.1b Relationship of Job Professionalism and ELMs	Chi-Square	< .001
H3.1a Relationship of Gender and ELMs	Chi-Square	< .001
H3.1b Relationship of Race and ELMs	Chi-Square	< .001
H4.1a Interaction of Task Interdependence and Environmental Variability on ELMs	Regression	< .001
H4.2a Interaction of Jobholder Autonomy and Environmental Variability on ELMs	Regression	< .001
H5.1a Interaction of Union Membership and Environmental Variability on ELMs	Regression	< .001
H5.1b Interaction of Professional Association and Environmental Variability on ELMs	Regression	< .001
H5.1c Interaction of Firm-Specific Skills and Environmental Variability on ELMs	Regression	< .001
H6.1a Interaction of Task Interdependence and Union Membership on ELMs	Regression	< .001

Table 5.1C (continued)

H6.1b Interaction of Task Interdependence and Professional			
Association on ELMs	Regression	< .001	
H6.1c Interaction of Task Interdependence and Firm-Specific			
Skills on ELMs	Regression	< .001	
H6.2a Interaction of Jobholder Autonomy and Union			
Membership on ELMs	Regression	< .001	
H6.2b Interaction of Jobholder Autonomy and Professional			
Association on ELMs	Regression	< .001	
H6.2c Interaction of Jobholder Autonomy and Firm-Specific			
Skills on ELMs	Regression	< .001	
H7.1a Interaction of Task Interdependence and Gender on ELMs	Regression	< .001	
H7.1b Interaction of Task Interdependence and Race on ELMs	Regression	< .001	
H7.2a Interaction of Jobholder Autonomy and Gender on ELMs	Regression	< .001	
H7.2b Interaction of Jobholder Autonomy and Race on ELMs	Regression	.337	
H8.1a Interaction of Union Membership and Gender on ELMs	Regression	< .001	
H8.1b Interaction of Professional Association and Gender on			
ELMs	Regression	< .001	
H8.1c Interaction of Firm-Specific Skills and Gender on ELMs	Regression	< .001	
H8.2a Interaction of Union Membership and Race on ELMs	Regression	< .001	
H8.2b Interaction of Professional Association and Race on ELMs	Regression	< .001	
H8.2c Interaction of Firm-Specific Skills and Race on ELMs	Regression	< .001	

Industrial, Geographic and Demographic Characteristics

Hypotheses H1.1a, H1.1b, and H1.1c relate to the relationship between environmental variability, geographic location, and external labor markets. H1.1a states that jobs in environments with greater variability will be more likely to be in an external labor market than jobs in environments having less variability, H1.1b states that jobs in rural areas are more likely to be located in external labor markets than jobs in urban areas, and H1.1c states that jobs in the South are more likely to be located in an external labor market than jobs in other regions.

To test hypothesis H1.1a (Table 5.2A) external labor market status was regressed on the organization's environmental variability (i.e., the average relative variability of the specific industry related to earnings, capital investment, and research and development funding). Environmental variability was significant (R-Square = .004, $df = 45,277$, $p < .001$), indicating a main effect. However, the directional influence was the opposite of that predicted ($B = -.162$).

Table 5.2A

Logistic Regression of External Labor Market Status on Environmental Variability

R-Square .004

$p < .001$

$df = 45,277$

$W = 210$

To test hypothesis H1.1b (Table 5.2B) Chi-square tests between residential location (1 = central city, 2 = suburbs, 3 = rural) and external labor market status were run.

The difference was significant (Chi-Square = 335, N = 91,402, $p < .001$). Post hoc testing found significance ($p < .001$) between central city and suburban status.

Table 5.2B

Chi-Square Tests of Residential Location and External Labor Market Status

	ELM	%	ILM	%	Total
1 Central city	55792	78.8	15033	21.2	70825
2 Suburbs	17185	84.6	3130	15.4	20315
3 Rural	212	80.9	50	19.1	262
Total	73189	80.1	18213	19.9	91402
Pearson Chi-Square = 335 (p < .001)					
Likelihood Ratio = 351 (p < .001)					
Linear-by-Linear Association = 321 (p < .001)					
Goodman and Kruskal Tau = .004 (p < .001)					
Uncertainty Coefficient = .004 (p < .001)					
(Symmetric)					
Phi = .061 (p < .001)					
Cramer's V = .061 (p < .001)					
Contingency Coefficient = .060 (p < .001)					
N = 91402					

To test hypothesis H1.1c (Table 5.2C) the difference in the means among regional location (1 = Northeast, 2 = Midwest, 3 = South, 4 = West) as to the proportion of residents who jobs are in an external labor was determined. Significant difference was found between the groups (Chi-square = 19, df = 91,402, $p < .001$). Post hoc testing found significant difference ($p < .025$) between the South and the Northeast and Midwest. Significant difference ($p < .001$) was also found between the Northeast and the West.

Hypotheses 2.1a and 2.1b relate to the relationship between non-professional jobs and firm-specific skills and 3.1a and 3.1b examine the relationship between such traditionally disenfranchised groups as women and minorities and their inclusion in an external labor market. H2.1a (Table 5.3A) considers the possible relationship between firm-specific skills and jobs in external labor markets for non-professional jobs. A bivariate regression, with jobs in external labor markets being regressed upon firm-specific skills, and the resulting analysis of variance test were run. Evidence ($p < .001$, $N = 56704$) was found to support the proposition that a difference exists among non-professional jobs regarding their inclusion in an external or internal labor market given the consideration of specific skills. However, the direction of movement between internal and external labor markets was the opposite of that predicted ($B = .082$).

H2.1b (Table 5.3B) considers the distinction between professional jobs and non-professional jobs in relation to their inclusion in an external labor market, regardless of the extent of jobholder firm-specific skills. A Chi-square test (1 = external labor market, 0 = internal labor market) between professional and non-professional jobs was conducted. Evidence (Chi-square = 18719, $N = 91401$, $p < .001$) was found to support the hypothesis that non-professional jobs, regardless of skill content, are more likely to be located in an external labor market than professional jobs.

Table 5.2C

Chi-Square Tests of Regional Location and External Labor Market Status

	ELM	%	ILM	%	Total
1 Northeast	15152	79.1	3993	20.9	19145
2 Midwest	18406	79.8	4655	20.2	23061
3 South	21902	80.6	5277	19.4	27179
4 West	17729	80.5	4288	19.5	22017
Total	73189	80.1	18213	19.9	91402

Pearson Chi-Square =	19	(p < .001)
Likelihood Ratio =	19	(p < .001)
Linear-by-Linear Association =	16	(p < .001)
Goodman and Kruskal Tau =	.000	(p < .001)
Uncertainty Coefficient =	.000	(p < .001)
(Symmetric)		
Phi =	.014	(p < .001)
Cramer's V =	.014	(p < .001)
Contingency Coefficient =	.014	(p < .001)
N =	91402	

Table 5.3A

**Bivariate Regression of External Labor Market Status on
Firm-Specific Skills for Non-Professional Jobs**

B = .082

R Square = .003

p < .001

Hypothesis 3.1a (Table 5.4A) examines the distinction between female and male employees in relation to their holding a job in an external labor market. A Chi-square test (1 = external labor market, 0 = internal labor market) between women and men was conducted. Evidence (Chi-square = 366, N = 91401, $p < .001$) was found to support the hypothesis that female employees are more likely to have jobs in external labor markets than are their male counterparts.

Hypothesis 3.1b (Table 5.4B) compares the tendency of minority men to hold a job in an external labor market to white, non-Hispanic men. A test of means (1 = external labor market, 0 = internal labor market) was performed contrasting white, non-Hispanic, black, native American, Asian-American, and Hispanic men. Post hoc testing was done to compare the demographic groups. Evidence (Chi-square = 491, N = 46222, $p < .001$) was found to support the hypothesis that white, non-Hispanic male employees are less likely to be in an external labor market than black, Native American, or Hispanic men. No significant difference was found between white, non-Hispanic men and Asian-American men.

Table 5.3B

Chi-Square Tests of Job Professionalism and External Labor Market Status

	ELM	%	ILM	%	Total
1 Professional jobs	22291	58.6	15717	41.4	38008
2 Non-professional jobs	50898	95.3	2496	4.7	53394
Total	73189	80.1	18213	19.9	91402

Pearson Chi-Square =	18719	(p < .001)
Continuity Correction	18717	(p < .001)
Likelihood Ratio =	19577	(p < .001)
Linear-by-Linear Association =	18719	(p < .001)
Lambda (Symmetric) =	.235	(p < .001)
Goodman and Kruskal Tau =	.205	(p < .001)
Uncertainty Coefficient =	.182	(p < .001)
(Symmetric)		
Phi =	-.453	(p < .001)
Cramer's V =	.453	(p < .001)
Contingency Coefficient =	.412	(p < .001)
N =	91402	

Table 5.4A

Chi-Square Test of Gender and External Labor Market Status

	ELM	%	ILM	%	Total
1 Men	35857	77.6	10365	22.4	46222
2 Women	37332	82.6	7848	17.4	45180
Total	73189	80.1	18213	19.9	91402

Pearson Chi-Square =	366	(p < .001)
Continuity Correction =	365	(p < .001)
Likelihood Ratio =	366	(p < .001)
Linear-by-Linear Association =	366	(p < .001)
Lambda (Symmetric) =	.023	(p < .001)
Goodman and Kruskal Tau =	.004	(p < .001)
Uncertainty Coefficient =	.003	(p < .001)
(Symmetric)		
Phi =	.063	(p < .001)
Cramer's V =	.063	(p < .001)
Contingency Coefficient =	.063	(p < .001)
N =	91402	

Table 5.4B

Chi-Square Tests of Race and External Labor Market Status

	ELM	%	ILM	%	Total
1 White, non-Hispanic	27585	75.7	8847	24.3	36432
2 Blacks	2942	86.6	455	13.4	3397
3 Native American	393	85.1	69	14.9	462
4 Asian-American	1167	72.9	434	27.1	1601
5 Hispanic	3770	87.1	560	12.9	4330
Total	35857	77.6	10365	22.4	46222

Pearson Chi-Square =	490	(p < .001)
Likelihood Ratio =	540	(p < .001)
Linear-by-Linear Association =	251	(p < .001)
Goodman and Kruskal Tau (ELM) =	.011	(p < .001)
Uncertainty Coefficient =	.009	(p < .001)
(Symmetric)		
Phi =	.103	(p < .001)
Cramer's V =	.103	(p < .001)
Contingency Coefficient =	.103	(p < .001)
N =	46222	

Power Variables

Hypotheses 4.1a and 4.2a consider the possible interrelatedness between sources of power intrinsic to the job (i.e., task interdependence and jobholder autonomy) and environmental variability in relation to the job being in an external labor market. Hypothesis 4.1a (Table 5.5A)

Table 5.5A

Logistic Regression of External Labor Market Status on Task Interdependence and Environmental Variability

	B	p
Task Interdependence	-.194	< .001
Environmental Variability	-.102	< .001
Interaction	1.716	< .001
Cox & Snell R-Square = .312		
Nagelkerke R-Square = .464		

states that jobs which have less task interdependence and are located in an environment with greater environmental variability are more likely to be in an external labor market than jobs characterized by only less task interdependence or greater environmental variability. A logistic regression test was run with environmental variability and task interdependence as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between task interdependence and environmental variability contributes significantly ($p < .001$, $N = 45279$) to

the inclusion in an external labor market. However, environmental variability had the opposite directional effect than hypothesized.

Hypothesis 4.2a (Table 5.5B) states that jobs having less jobholder autonomy and which are located in environments having more environmental variability are more likely to be in external labor markets than jobs which only have less jobholder autonomy or are in environments with more variability. A logistic regression test was run with environmental variability and jobholder autonomy serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Evidence was found to support the proposition that the interaction between jobholder autonomy and environmental variability contributes significantly ($p < .00$, $N = 45279$) to the inclusion of a job in an external labor market, however, the directional influence of environmental variability was the opposite of that proposed.

Hypotheses 5.1a, 5.1b, and 5.1c consider the possible interrelatedness of the employee's sources of power extrinsic to the job (i.e., union representation, professional representation, and firm-specific skills) and environmental variability in relation to external labor market status.

Hypothesis 5.1a (Table 5.6A) states that jobs which are located in environments with more variability and which lack union representation are more likely to be in an external labor market than jobs which are characterized by only being in an environment with more variability or by lacking union representation. A logistic regression test was run with environmental variability and union membership serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between environmental variability and union membership contributes significantly ($p < .001$, $N = 45279$) to the inclusion of a job in an external labor market, however, environmental variability had the opposite directional effect than hypothesized.

Table 5.5B**Logistic Regression of External Labor Market Status on Jobholder****Autonomy and Environmental Variability**

	B	p
Jobholder Autonomy	-.127	< .001
Environmental Variability	-.180	< .001
Interaction	.684	< .001
Cox & Snell R-Square = .359		
Nagelkerke R-Square = .534		

Table 5.6A**Logistic Regression of External Labor Market Status on****Environmental Variability and Union Membership**

	B	p
Environmental Variability	-.154	< .001
Union Membership	.430	< .001
Interaction	-.627	< .001
Cox & Snell R-Square = .017		
Nagelkerke R-Square = .026		

Hypothesis 5.1b (Table 5.6B) states that jobs which are located in environments with more variability and which lack professional representation are more likely to be in an external labor market than jobs which are characterized by only being in an environment with more variability or which lack professional representation. A logistic regression test was run with environmental variability and professional association serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between environmental variability and professional association membership contributes significantly ($p < .001$, $N = 45279$) to inclusion in an external labor market, however, environmental variability had the opposite directional effect than hypothesized.

Table 5.6B

**Logistic Regression of External Labor Market Status on Professional
Association and Environmental Variability**

	B	p
Professional Association	-2.491	< .001
Environmental Variability	- .057	< .001
Interaction	2.58	< .001
Cox & Snell R-Square = .210		
Nagelkerke R-Square = .313		

Hypothesis 5.1c (Table 5.6C) proposes that jobs which are located in environments with more variability and which have low levels of firm-specific skills are more likely to be in an external labor market than jobs which are characterized by only being in an environment with more variability or which have limited firm-specific skills. A logistic regression test was run with environmental variability and firm-specific skills serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between environmental variability and firm-specific skills contributes significantly ($p < .001$, $N = 45,279$) to the inclusion of a job in an external labor market, however, environmental variability had the opposite directional effect than proposed.

Table 5.6C

**Logistic Regression of External Labor Market Status on
Firm-Specific Skills and Environmental Variability**

	B	p
Firm-Specific Skills	-.325	< .001
Environmental Variability	-.105	< .001
Interaction	.062	< .001
 Cox & Snell R-Square = .238		
Nagelkerke R-Square = .354		

Hypotheses 6.1a, 6.1b, 6.1c, 6.2a, 6.2b, and 6.2c consider possible interrelatedness between power variables intrinsic to the job (i.e., task interdependence and jobholder autonomy) and those extrinsic of the job (i.e., union membership, professional association, and firm-specific skills). Hypothesis 6.1a (Table 5.7A) states that jobs which have little task interdependence and

Table 5.7A

Logistic Regression of External Labor Market Status on
Task Interdependence and Union Membership

	B	p
Task Interdependence	-.102	< .001
Union Membership	.541	< .001
Interaction	-.903	< .001

Cox & Snell R-Square = .279

Nagelkerke R-Square = .441

lack union representation are more likely to be in an external labor market than jobs which are characterized by only having limited task interdependence or which lack union representation. A logistic regression test was run with task interdependence and union membership serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between task interdependence and union membership contributes significantly ($p < .001$, $N =$

91402) to the inclusion of a job into an external labor market, however, union membership had the opposite directional effect than proposed.

Hypothesis 6.1b (Table 5.7B) proposes that jobs which have little task interdependence and lack professional representation are more likely to be in an external labor market than jobs which are characterized by only having limited task interdependence or which lack professional representation. A logistic regression test was run with task interdependence and professional association serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between task interdependence and professional association contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.7B

**Logistic Regression of External Labor Market Status on
Task Interdependence and Professional Association**

	B	p
Task Interdependence	-.083	< .001
Professional Association	-1.072	< .001
Interaction	-.587	< .001
 Cox & Snell R-Square = .282		
Nagelkerke R-Square = .447		

Hypothesis 6.1c (Table 5.7C) states that jobs which have little task interdependence and limited firm-specific skills are more likely to be in an external labor market than jobs which are characterized by only having limited task interdependence or few firm-specific skills. A logistic regression test was run with task interdependence and firm-specific skill serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between task interdependence and firm-specific skills contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.7C

**Logistic Regression of External Labor Market Status on
Task Interdependence and Firm-Specific Skill**

	B	p
Task Interdependence	-.071	< .001
Firm-Specific Skill	-.213	< .001
Interaction	-.057	< .001

Cox & Snell R-Square = .298

Nagelkerke R-Square = .472

Hypotheses 6.2a, 6.2b, and 6.2c consider the interrelatedness of jobholder autonomy and extrinsic power variables. Hypothesis 6.2a (Table 5.8A) proposes that jobs with little jobholder

autonomy and which lack union representation are more likely to be in an external labor market than jobs which are characterized by having only limited jobholder autonomy or lacking union representation. A logistic regression test was run with jobholder autonomy and union membership serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between jobholder autonomy and union membership contributes significantly ($p < .001$, $N = 91402$), however, union membership had the opposite directional influence than hypothesized.

Table 5.8A

**Logistic Regression of External Labor Market Status on
Jobholder Autonomy and Union Membership**

	B	p
Jobholder Autonomy	-.137	< .001
Union Membership	.667	< .001
Interaction	.058	< .001

Cox & Snell R-Square = .347

Nagelkerke R-Square = .549

Hypothesis 6.2b (Table 5.8B) states that jobs with limited jobholder autonomy and which lack professional representation are more likely to be in an external labor market than jobs

which are characterized by only having little jobholder autonomy or lacking professional association. A logistic regression test was run with jobholder autonomy and professional association serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between jobholder autonomy and professional association contributes to inclusion in an external labor market ($p < .001$, $N = 91402$); however support was not found for jobholder autonomy main term effects.

Table 5.8B

**Logistic Regression of External Labor Market Status on
Jobholder Autonomy and Professional Association**

	B	p
Jobholder Autonomy	-.134	< .001
Professional Association	-.061	.056
Interaction	.052	< .001

Cox & Snell R-Square = .336

Nagelkerke R-Square = .532

Hypothesis 6.2c (Table 5.8C) proposes that jobs with limited jobholder autonomy and few firm-specific skills are more likely to be in an external labor market than jobs which are characterized by having only limited jobholder autonomy or few firm-specific skills. A logistic

regression test was run with jobholder autonomy and firm-specific skill serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) as the dependent variable. Support was found for the proposition that the interaction between jobholder autonomy and firm-specific skills contributes significantly ($p < .001$, $N = 91402$) to the inclusion in an external labor market.

Table 5.8C

**Logistic Regression of External Labor Market Status on
Jobholder Autonomy and Firm-Specific Skill**

	B	p
Jobholder Autonomy	-.117	< .001
Firm-Specific Skill	-.086	< .001
Interaction	.059	< .001

Cox & Snell R-Square = .339

Nagelkerke R-Square = .537

Hypotheses 7.1a, 7.1b, 7.2a, and 7.2b consider the possible interrelatedness of power intrinsic of the job (i.e., task interdependence and jobholder autonomy) and the jobholder's membership in a traditionally disadvantaged demographic group (i.e., women and minorities). Hypothesis 7.1a (Table 5.9A) states that jobs having little task interdependence which are held by women are more likely to be in an external labor market than jobs which are characterized by only

having limited task interdependence or being held by a female. A logistic regression test was run with task interdependence and gender (1 = female, 0 = male) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between task interdependence and gender contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.9A

Logistic Regression of External Labor Market Status on Task Interdependence and Gender

	B	p
Task Interdependence	-.101	< .001
Gender	.397	< .001
Interaction	-.050	< .001

Cox & Snell R-Square = .273

Nagelkerke R-Square = .432

Hypothesis 7.1b (Table 5.9B) proposes that jobs having limited task interdependence which are held by minority are more likely to be in an external labor market than jobs which are characterized by only having little task interdependence or being held by a minority. A logistic regression test was run with task interdependence and gender (1 = minority employee, 0 = majority employee) serving as independent variables and external labor market status (external

labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between task interdependence and race contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.9B

Logistic Regression of External Labor Market Status on Task Interdependence and Race

	B	p
Task Interdependence	-.073	< .001
Race	.032	< .001
Interaction	.903	< .001

Cox & Snell R-Square = .270

Nagelkerke R-Square = .427

Hypothesis 7.2a (Table 5.9C) states that jobs having less jobholder autonomy which are held by a female are more likely to be in an external labor market than jobs which are characterized by only having little jobholder autonomy or which are held by a female. A logistic regression test was run with task interdependence and gender (1 = female, 0 = male) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between jobholder autonomy and gender contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.9C

Logistic Regression of External Labor Market Status on Jobholder Autonomy and Gender

	B	p
Jobholder Autonomy	-.101	< .001
Gender	.397	< .001
Interaction	-.043	< .001

Cox & Snell R-Square = .273

Nagelkerke R-Square = .432

Hypothesis 7.2b (Table 5.9D) proposes that jobs having limited jobholder autonomy which are held by a minority are more likely to be in an external labor market than jobs which are characterized by only having less jobholder autonomy or having a minority incumbent. A logistic regression test was run with task interdependence and gender (1 = minority employee 0 = majority employee) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was not found for the proposition that the interaction between jobholder autonomy and race contributes significantly to inclusion in an external labor market.

Hypotheses 8.1a, 8.1b, 8.1c, 8.2a, 8.2b, and 8.2c consider the possible interrelatedness of jobholder power sources which are extrinsic to the job (i.e., union membership, professional associations, and firm-specific skills) and traditionally disadvantaged demographic groups (i.e.,

Table 5.9D

Logistic Regression of External Labor Market Status on Jobholder Autonomy and Race

	B	p
Jobholder Autonomy	-.102	< .001
Race	-.065	.076
Interaction	1.626	.337

Cox & Snell R-Square = .270

Nagelkerke R-Square = .427

women and minorities). Hypothesis 8.1a (Table 5.10A) states that jobs lacking union representation which are held by a female are more likely to be in an external labor market than jobs which are characterized by lacking union representation or which are held by a female. A logistic regression test was run with task interdependence and gender (1 = female, 0 = male) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between union membership and gender contribute significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market, however, union membership had the opposite directional influence than postulated.

Hypothesis 8.1b (Table 5.10B) proposes that jobs lacking professional representation which are held by a female are more likely to be in an external labor market than jobs which are

Table 5.10A

Logistic Regression of External Labor Market Status on Union Membership and Gender

	B	p
Gender	.320	< .001
Union Membership	.465	< .001
Interaction	.316	< .001

Cox & Snell R-Square = .016

Nagelkerke R-Square = .026

characterized by the lack of professional association or which are held by a female. A logistic regression test was run with task interdependence and gender (1 = female, 0 = male) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between professional association and gender contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Hypothesis 8.1c (Table 5.10C) states that jobs with few firm-specific skills which are held by a female are more likely to be in an external labor market than jobs which are characterized by the lack of firm-specific skills or which are held by a female. A logistic regression test was run with task interdependence and gender (1 = female, 0 = male) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the

Table 5.10B

Logistic Regression of External Labor Market Status on Professional Association and Gender

	B	p
Professional Association	-2.706	< .001
Gender	.502	< .001
Interaction	.877	< .001

Cox & Snell R-Square = .199

Nagelkerke R-Square = .315

dependent variable. Support was found for the proposition that the interaction between gender and firm-skills contributes significantly ($p < .001$, $N = 91402$) to the inclusion in an external labor market.

Hypothesis 8.2a (Table 5.10D) proposes that jobs without union representation which are held by a minority are more likely to be in an external labor market than jobs which are characterized by the lack of union representation or which are held by a minority. A logistic regression test was run with task interdependence and gender (1 = minority employee, 0 = majority employee) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between union membership and race contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market, however the directional influence of union membership was the opposite of that proposed.

Table 5.10C

Logistic Regression of External Labor Market Status on Firm-Specific Skills and Gender

	B	p
Firm-Specific Skills	-.433	< .001
Gender	.633	< .001
Interaction	.065	< .001

Cox & Snell R-Square = .252

Nagelkerke R-Square = .399

Table 5.10D

Logistic Regression of External Labor Market Status on Union Membership and Race

	B	p
Union Membership	.463	< .001
Race	-.401	< .001
Interaction	-.018	< .001

Cox & Snell R-Square = .016

Nagelkerke R-Square = .025

Hypothesis 8.2b (Table 5.10E) states that jobs without professional association which are held by a minority are more likely to be in an external labor market than jobs which are characterized by the lack of professional association or those which are held by a minority. A logistic regression test was run with task interdependence and gender (1 = minority employee, 0 = majority employee) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between professional association and race contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market.

Table 5.10E

Logistic Regression of External Labor Market Status on Professional Association and Race

	B	p
Professional Association	-2.89	< .001
Race	.089	< .001
Interaction	.205	< .001

Cox & Snell R-Square = .193

Nagelkerke R-Square = .305

Hypothesis 8.2c (Table 5.10F) proposes that jobs with limited firm-specific skills and which are held by a minority are more likely to be in an external labor market than jobs which are characterized by the lack of firm-specific skills or jobs held by a minority. A logistic regression

test was run with task interdependence and gender (1 = minority employee, 0 = majority employee) serving as independent variables and external labor market status (external labor market = 1, internal labor market = 0) serving as the dependent variable. Support was found for the proposition that the interaction between firm-specific skills and race contributes significantly ($p < .001$, $N = 91402$) to inclusion in an external labor market; however, race did not enter into the model as a main effect.

Table 5.10F

Logistic Regression of External Labor Market Status on Firm-Specific Skills and Race

	B	p
Firm Specific Skills	-.040	< .001
Race	-.123	.101
Interaction	.061	< .001

Cox & Snell R-Square = .243

Nagelkerke R-Square = .385

Chapter Summary

This chapter outlined the research methodology used in the dissertation research including subject sample, data collection and measures, and data analysis methods.

CHAPTER 6

DISCUSSION AND CONCLUSION

This chapter is divided into four major sections: (1) overview of the research, (2) discussion of empirical findings, (3) study contributions, and (4) study limitations and directions for future research.

Overview

This study examined the nature of external labor markets from a multilevel perspective. It investigated the relationship of macro-level variables (i.e., environmental variability and regional factors), meso-level variables (i.e., task interdependence and jobholder autonomy), and micro-level variables (i.e., gender and race) to external labor markets by specifically examining which features differentiate jobs that are and are not included in such structures. The relationship of power variables (e.g., firm-specific skills) to external labor markets was also tested. As with job technology variables, the study looked particularly at what power characteristics, or lack thereof, differentiate jobs that are and are not included in external labor markets. The variance between the above technology and power variables was studied as well. Finally, the research investigated how the combined influence of technology and power relates to presence of external labor markets. Specifically, the study tested for interactions between technology and power variables as well as between environmental variability and geographic and demographic variables to determine whether jobs with these effects were more or less often found in external labor markets.

To some extent this study was exploratory in that much of the previous research into the development of labor markets has considered internal labor markets, especially at the macro-level of analysis (e.g., Beck, Horan, & Tolbert, 1978; Edwards, 1979; Sonnenfeld & Peiperl, 1988). It was contended that a better understanding of the nature of labor markets has been hindered by near exclusive focus upon internal labor markets and upon the traditional approach of solely examining macro-level variables such as sectors, industries, and business-level strategies.

The reported research was undertaken in the belief that a more complete understanding of external labor markets would be possible through an examination of the technological components of those jobs which are found in external labor markets. The relative power of workplace participants to define their jobs was also considered to be an important element in the development of external labor markets.

Discussion of Research Findings

Environmental variability was significantly related to external labor markets as expected (i.e., H1.1a, H4.1a, H4.2a, H5.1a, H5.1b, H5.1c), however the directional relation between environmental and external labor markets was the opposite of that expected. That is, the likelihood of a job being in an external labor market increased with decreasing levels of environmental variability. This finding runs counter to the dual sector theory (Kalleberg & Sorenson, 1979; Kalleberg, 1981) which argues that firms in the core sector have monopoly power, are more focused upon long-term stability and will encounter less environmental variability than firms in the periphery because of their oligopolistic market powers and their desire to reduce uncertainty. Because firms in the core sector are better positioned to attain long-term stability,

they are expected to be willing to incur the additional costs to maintain internal labor market devices. Firms in periphery industries, on the other hand, are considered to be subject to more competition, focus more upon short-term survival and are expected to face more environmental variability. Firms in the peripheral sector are expected to utilize external labor markets more because they are less able to obtain premiums since they lack oligopolistic power and, therefore, are not able to incur the increased costs of internal labor market structures.

There are at least four reasons to explain the countervailing findings. First, all industries, except governmental and agricultural, were included in the study. It is possible that different sectors (e.g., manufacturing, services) have different functions for external labor markets and, given the sector under consideration, it may be necessary to formulate different propositions when considering the determinants of external and internal labor markets. Work on internal labor markets has traditionally focused on the core sector with relatively limited attention given to the peripheral sector (Doeringer & Piore, 1971; Hickson, Pugh, & Pheysey, 1969; Kalleberg, 1981), but the core sector, by definition, is comprised primarily of large, stable manufacturing enterprises. Therefore, the past study has assumed the elements found in manufacturing firms.

Second the study used an average of different types of environmental variability (i.e., earnings, capital outlays, technological). It is possible that different forms of environmental variability may lead to different rates of external labor market usage. For example, if a firm may have significant capital outlay variability if it is undertaking a major project and incurring the costs of the project over a short period of time. If the firm expects the project to add stability to its future then the organization may be willing to develop internal labor market structures even though its rate of capital development variability is high. On the other hand, a firm that has high

earnings variability may not be able or willing to incur the additional costs of an internal labor market because it is not able to consistently derive premiums. Such an organization, which has high earnings variability, may be more likely to use external labor markets.

Third, several forms of external labor markets were grouped together in the study and some may be more less attractive to firms with differing degrees of environmental variability than other external labor market forms. For example, an independent contract laborer in a professional position may have significantly more job stability, better working conditions and higher earnings than a nonprofessional employee who works for a temporary placement office. That, is some jobs which are traditionally considered to be in an external labor market may have more in common with jobs in internal labor markets than with other jobs in external labor markets.

Fourth, the study was conducted in a time frame in which the general economy is strong and thus variability (i.e., growth) may be desired by organizations. If so, then it may be that the traditional assignment of external labor markets to “weaker,” less stable firms should actually be assigned to firms with more stability (i.e., less growth) as measured by the relatively short time frame of the study. That is, a study with a longer time frame may have significantly different results.

Union membership (H5.1a, H6.1a, H6.2a, H8.1a, H8.2a) had somewhat mixed results. While it was significantly related to the inclusion of jobs in external labor market in each instance, it had the opposite directional relationship than expected when union membership was considered in relation to task interdependence, jobholder autonomy, gender or race. Union membership had the expected directional relationship to external labor markets when membership was considered conjointly with environmental variability. In addition to similar explanations as given above for

differences between the results of the study and expectations about environmental variability it may be that the influence of unions is in general decline and therefore the market power of union membership is less than expected. On the other hand, different general economic conditions may lead to enhanced support for unions.

Evidence that jobs in the South are more likely to be in an external labor market than jobs in other regions was found (H1.1c). Jobs in the South were significantly more likely to be in an external labor market than jobs in the Northeast or Midwest. Evidence that jobs in the South tend to be in an external labor market more so than jobs in the West was not found. Evidence was not found that jobs in rural areas tend to be in external labor markets more than jobs in metropolitan areas. However, jobs of suburban residents were found to be more likely in an external labor market than jobs in the central city. This may be due to suburban “soccer moms” working part-time and therefore being classified as external labor market employees.

Lack of support for the significance of professional association or race when jobholder autonomy is also considered (H6.2b and H7.2b, respectively) may be due to jobholder autonomy acting to suppress the relationship between professional association or race with external labor markets.

As predicted, the likelihood of a job being an external labor market was related to task interdependence, jobholder autonomy, firm-specific skills, union membership (when considered in relation to environmental variability), lack of professional membership, gender and race. Decreasing levels of task interdependence, jobholder autonomy, and firm-specific were associated with an increased likelihood of being in an external labor market. Thus, the argument that task interdependence, jobholder autonomy, and firm-specific skills produces market power for the

employee was supported. As proposed, given declining task interdependence, jobholder autonomy, and firm-specific skills, then the likelihood that a job will be in an external labor market increases. Furthermore, as was expected, the likely recipients of such unfavorable arrangements, as found in jobs in external labor markets, tend to be women, minorities, and nonprofessional employees.

Contributions

The purpose of this dissertation was to enhance understanding of the development of external labor markets. Most studies of labor markets have considered internal labor markets and have related career mobility and advancement with organizations' responses to the characteristics of dual labor markets (Doeringer & Piore, 1971; Edwards, 1979), industrial sectors (e.g., Beck, Horan, & Tolbert, 1978; Tolbert, 1982), particular industries (e.g., Sonnefeld & Peiperl, 1988), and specific firms (e.g., Miles & Snow, 1984; Schuler & Jackson, 1987). By recognizing the diversity across and within firms and between levels of study, however, suggested the need for a closer, multilevel examination of external labor markets.

The results of this dissertation serve as a bridge between human capital explanations of mobility and advancement and the macro-level explanations of internal labor markets mentioned above and provide insights into the formation and development of external labor markets. They show that interactions in decision making regarding employment arrangements, conflict over definitions of work, and the relative power of competing coalitions can have significant consequences for individual jobholders. As this study shows, for human capital to be of value in promoting career mobility and advancement, an individual must first gain access to the "right" job

or what Edwards (1979) has deemed to be a “good” job. Furthermore, simply having a job in a particular industry (e.g., Sonnenfeld & Peiperl, 1988) or economic sectors (e.g., Beck, Horan, & Tolbert, 1978) is also insufficient for mobility and advancement. Although previous research (e.g., Beck, Horan, & Tolbert, 1978) indicates that some industries or sectors provide better opportunities for advancement than others, there is often significant variation in the promotion structures within these categories. The essential element seems to be a “good” job within a “good” industry or sector. Thus, this research would seem to imply that individual career attainment is dependent upon a complex interaction of various variables spanning several layers of analysis.

Practically speaking, the results of this study suggest the necessity for change in at least two types of decision-making. First, public policy makers should reflect upon the possibility that unemployment and instability in individual employment patterns can not be corrected in the long term by simply creating just any job in any industry or providing just any training. It has been suggested (Eyraud, Marsden, and Silvestre, 1990) that most public retraining programs differ significantly from established methods of skill attainment utilized in various industries, thus making it difficult for job advancement to occur. These researchers argue that one reason for these difficulties is a reluctance on the part of employers to do away with employment arrangements which keep employees tied to established training regimes. Cassesll (1990) has also noted that employers normatively tend to disfavor public employment services. As noted in this dissertation, these employment arrangements serve to restrict job advancement and mobility. Furthermore, employees are also inclined to defend the investments they have made in their skills.

Thus, this research supports Falk and Lyson's (1988) contention that employment hindrances will continue until "good" jobs and skills are created.

Second, although this dissertation did not examine business-level strategies, the results support some preliminary conclusions regarding the clarion call to include human resource policy setting decisions in a firm's business-level plans (e.g., Butler, Ferris, & Napier, 1991; Ferris, et al., 1991; Tichy, Fombrun, & Devanna, 1984). Specifically, for human resources management to become an key consideration of strategic planning more than a cursory glance at market conditions and overall industrial relations must occur. Instead, the link between such human resources management and business-level planning must be engaged in throughout the firm at all levels and not just in the hiring of workers. This is especially true if theoretical attempts to tie human resource practices to firm performance are supported by empirical research (e.g., Butler, Ferris, & Napier, 1991; Ferris, et al., 1991). Cassell (1990) also suggests that the link between human resources practices and strategic planning must fully incorporate the strategic change concept. In particular, decision makers must realize that environmental variability, organizational responses to such changes, and the responses of individual employees are all interwoven.

Study Limitations and Future Research Directions

There are at least three limitations acting upon this dissertation. First, while the sample size in terms of individuals, jobs and industries was fairly large, no accounting for different industry sectors was made. As was discussed previously, different sectors may have produced different results. Furthermore, union membership was not differentiated between craft and industrial unions and environmental variability was considered as an average measure rather than segregating it into its component elements.

Second, the utilization of O-net data to measure task interdependence and jobholder autonomy may be questionable. Although, these data were prepared from longer standing Dictionary of Occupational Titles data and Spenner (1990) reports that DOT data compare favorably to self-report and other job characteristic measures, anytime data are used for some purpose other than that for which they were originally collected, validity issues must be acknowledged. Such questions may be additionally exacerbated by the recency of data which has not had an opportunity to be scrutinized as carefully as needed. In the present case, there were measurement limitations related to testing various relationships involving professional jobs. None of the associated hypotheses could be thoroughly tested due to an inability to tap pseudoprofessionalism.

Finally, the O-net data may contain gender biases since it was developed in part from earlier published DOT manuals and charges have been made that the DOT may contain gender biases (Miller, et al., 1980). Spenner (1990), however, as reported that the most recent edition of the DOT (U.S. Department of Labor, 1977) is significantly less biased against women than previous issues. Still, caution may be advisable in using the results from this dissertation when considering jobs predominated by women.

A number of extensions to this study are possible, some of them address the aforementioned limitations. First, a study exploring industrial sectors, different types of environmental variability, or structures of external labor markets may answer questions about generalizability across organizations and their employment practices. Accounting for public service and agricultural employees may also add understanding about those particular groups and the human resource practices which they encounter. Differentiation of union employees between

craft and industrial unions may also shed insight upon different degrees of power held by the type of union.

Second, it is also possible that a connection exists between a firm's chosen strategy and the types of jobs that are created by firms. For example, Cassell (1990) has argued that firms operating in dynamic and unstable environments will attempt to utilize external labor markets for needed labor rather than risk the long-term ties and loss of flexibility entailed in the use of internal labor markets. Furthermore, one of the major determining factors regarding strategic performance is the success with which a particular strategy is implemented (Porter, 1985).

In considering "occupational labor market" (OLM), which may be equated to ELMs, and internal labor market (ILM) responses to changes in demand, Eyraud, Marsden, and Silvestre (1990) contend that, although OLMs adjust easily to changes labor demand due to changes in business cycles, OLMs adjust less readily to technical or organizational changes. This problematic occurrence is due to the systematization of business practices within the specific organization which are the trademark of ILMs. That is, ILMs adjust quite easily to changing requirements inside the firm, but they stymie the firm's ability to deal with economic wide unemployment. Moreover, any change away from established procedures (e.g., employment security, jobholder autonomy) is likely to create conflict over definitions of work (e.g., Benson, 1977; Scott, 1987). Thus, a firm's environment and its dependence upon firm-specific skills or more broadly attainable general occupational skills may have significant impact upon the ability of the firm to attain the implementation of desired business-wide strategy. For example, although not a direct test of the relationship between these skill types and strategy implementation, Ferris et al. (1991) did find a significant relationship between human resource practices, strategic planning, and firm

performance. The question thus arises, “Do successful firms more accurately match their business-level strategies to the type of labor market they use than their less successful counterparts?”

In sum, this dissertation has furthered understanding of external labor markets by: (1) empirically exploring external labor markets from a multilevel approach, (2) comparing and contrasting the relationship of power and job-level technology variables with environmental variability, geographic and demographic variables and their resulting relationship to the inclusion of a job in an external labor market, and (3) considering the degree to which power, job-level technology, environmental variability, geographic, and demographic factors combine to influence the formation and maintenance of external labor markets.

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